Theoretical Background

National Annexes to EN 1992

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Version Information

Welcome to the Theoretical Background for National Annexes to EN 1992.

This document provides background information regarding the application of NDP items according to different countries.

In addition, this document also contains non-contradictory complementary information (NCI) for the application of EN 1992-1-1 which are used in Scia Engineer.

Version info

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Introduction

In this Theoretical background in depth information is given regarding the application of National Annexes to EN 1992 for different countries.

More specifically this concerns the following codes:

Eurocode 2
Design of concrete structures
Part 1-1: General rules and rules for buildings
EN 1992-1-1:2004
Corrigendum EN 1992-1-1:2004/AC:2008-01
Corrigendum EN 1992-1-1:2004/AC:2010-11

Eurocode 2
Design of concrete structures
Part 1-2: General rules – Structural fire design
EN 1992-1-2:2004
Corrigendum EN 1992-1-2:2004/AC:2008

Eurocode 2
Design of concrete structures
Concrete bridges – Design and detailing rules
EN 1992-2:2005
Corrigendum EN 1992-2:2005/AC:2008

The first chapter gives an overview of all NDP articles given in EN 1992 and specifies which of those articles are supported by Scia Engineer.

The subsequent chapters provide details on the specific implementation of the supported articles for different countries.

List of supported national annexes

This chapter provides brief list of supported national annexes to give quick overview.

	EN 1992-1-1	EN 1992-1-2	EN 1992-2
Austria	✓	✓	✓
Belgium	✓	✓	
United Kingdom	✓	✓	✓
Cyprus			✓
Czech Republic	✓	✓	✓
Denmark	✓		
Netherlands	✓	✓	✓
Finland	✓	✓	✓
France	✓	✓	✓
Germany	✓	✓	
Greece	✓	✓	✓
Ireland	✓	✓	✓
Italy			
Luxembourg	✓	✓	✓
Malaysia	✓		
Norway	✓	✓	
Poland	✓	✓	✓
Romania	✓		
Singapore	✓		
Slovakia	✓	✓	✓
Slovenia	✓		
Spain	✓		✓
Sweden	✓	✓	✓

National Choice in EN 1992

This chapter specifies the articles of EN 1992 in which a national choice is allowed. In addition, for each article information is given if the article is supported within Scia Engineer.

EN 1992-1-1

Article	Commentary
2.3.3 (3)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
2.4.2.1 (1)	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
2.4.2.2 (1)	The NA may define the partial factor for prestress for favourable actions *NA data supported in Scia Engineer*
2.4.2.2 (2)	The NA may define the partial factor for prestress for unfavourable actions *NA data supported in Scia Engineer*
2.4.2.2 (3)	The NA may define the partial factor for prestress for unfavourable actions on local effects *No default implementation/Not supported for Scia Engineer*
2.4.2.3 (1)	The NA may define the partial factor for fatigue loads *No default implementation/Not supported for Scia Engineer*
2.4.2.4 (1)	The NA may define the partial factors for materials for ultimate limit states *NA data supported in Scia Engineer*
2.4.2.4 (2)	The NA may define the partial factors for materials for serviceability limit states *No default implementation/Not supported for Scia Engineer*
2.4.2.5 (2)	The NA may define the partial factors for materials for foundations *No default implementation/Not supported for Scia Engineer*
3.1.2 (2)P	The NA may define the value of maximal allowed concrete class *NA data supported in Scia Engineer*
3.1.2 (4)	The NA may define the partial factors for materials for foundations *No default implementation/Not supported for Scia Engineer*

3.1.6 (1)P	The NA may define the partial safety factor for concrete and the coefficient taking account of long term effects on the compressive strength *NA data supported in Scia Engineer*
3.1.6 (2)P	The NA may define the partial safety factor for concrete and the coefficient taking account of long term effects on the tensile strength *NA data supported in Scia Engineer*
3.2.2 (3)P	The NA may define the value of maximal allowed yield strength of reinforcement *NA data supported in Scia Engineer*
3.2.7 (2)	The NA may define the value of strain limit *NA data supported in Scia Engineer*
3.3.4 (5)	The NA may define the limit for assumption of adequate ductility in tension *NA data supported in Scia Engineer*
3.3.6 (7)	The NA may define the value of strain limit and ratio of limit design values of steel stress *NA data supported in Scia Engineer*
4.4.1.2 (3)	The NA may define the values of minimum cover due to bond requirement *NA data supported in Scia Engineer*
4.4.1.2 (5)	The NA may define the values of minimum cover due to environmental conditions *NA data supported in Scia Engineer*
4.4.1.2 (6)	The NA may define the value of additive safety element for minimum cover *NA data supported in Scia Engineer*
4.4.1.2 (7)	The NA may define the value of reduction of minimum cover for use of stainless steel *NA data supported in Scia Engineer*
4.4.1.2 (8)	The NA may define the values of reduction of minimum cover for use of additional protection *NA data supported in Scia Engineer*
4.4.1.2 (13)	The NA may define the values of increasing the concrete cover due to abrasion *NA data supported in Scia Engineer*

4.4.1.3 (1)P	The NA may define the values of increasing the concrete cover due to deviation *NA data supported in Scia Engineer*
4.4.1.3 (3)	The NA may define the values of decreasing deviation in certain situations *NA data supported in Scia Engineer*
4.4.1.3 (4)	The NA may define the values of increasing the concrete cover due to cast against uneven surfaces *NA data supported in Scia Engineer*
5.1.3 (1)P	The NA may define the method for simplification in the number of load arrangements *No default implementation/Not supported for Scia Engineer*
5.2 (5)	The NA may define the value of basic inclination *NA data supported in Scia Engineer*
5.5 (4)	The NA may define the values of coefficients for determination if redistribution of bending moments without explicit check on the rotation capacity can be used *NA data supported in Scia Engineer*
5.6.3 (4)	The NA may define the basic value of allowable rotation for plastic rotation capacity calculation *No default implementation/Not supported for Scia Engineer*
5.8.3.1 (1)	The NA may define the value of limit slenderness for isolated members *NA data supported in Scia Engineer*
5.8.3.3 (1)	The NA may define the factor for determination if global second order effects in buildings may be ignored *No default implementation/Not supported for Scia Engineer*
5.8.3.3 (2)	The NA may define the factor for determination if global second order effects in buildings may be ignored if bracing members are uncracked in ultimate limit state *No default implementation/Not supported for Scia Engineer*
5.8.5 (1)	The NA may define the simplified method for analysis *No default implementation/Not supported for Scia Engineer*
5.8.6 (3)	The NA may define the partial factor for general method *No default implementation/Not supported for Scia Engineer*
5.10.1 (6)	The NA may define the method for avoid to brittle failure

	No default implementation/Not supported for Scia Engineer
5.10.2.1 (1)P	The NA may define the factors for maximum stress applied to the tendon *NA data supported in Scia Engineer*
5.10.2.1 (2)	The NA may define the factors for increasing the maximum stress applied to the tendon *NA data supported in Scia Engineer*
5.10.2.2 (4)	The NA may define the factors of minimum strength of the concrete at the time *No default implementation/Not supported for Scia Engineer*
5.10.2.2 (5)	The NA may define the factor for increasing the maximum concrete compressive stress *NA data supported in Scia Engineer*
5.10.3 (2)	The NA may define the factors for maximum stress in prestressing reinforcement *NA data supported in Scia Engineer*
5.10.8 (2)	The NA may define the value of the increase of the stress from the effective prestress to the stress in the ultimate limit state *No default implementation/Not supported for Scia Engineer*
5.10.8 (3)	The NA may define the partial safety factors for the design value of the stress increase *No default implementation/Not supported for Scia Engineer*
5.10.9 (1)P	The NA may define the partial safety factors for the characteristic values of the prestressing forces at the serviceability limit state *NA data supported in Scia Engineer*
6.2.2 (1)	The NA may define the values for the shear resistance without shear reinforcement *NA data supported in Scia Engineer*
6.2.2 (6)	The NA may define the value for the limitation of the shear force *NA data supported in Scia Engineer*
6.2.3 (2)	The NA may define the limiting values for the angle between the concrete compression strut and the beam axis perpendicular to the shear force *NA data supported in Scia Engineer*

6.2.3 (3)	The NA may define the values for the shear resistance with shear reinforcement *NA data supported in Scia Engineer*
6.2.4 (4)	The NA may define the limiting values for the angle between the concrete compression strut in the flange and the beam axis perpendicular to the shear force *NA data supported in Scia Engineer*
6.2.4 (6)	The NA may define the factor for the decision if extra reinforcement for shear is required *NA data supported in Scia Engineer*
6.4.3 (6)	The NA may define the factors for the design value of punching shear stress *NA data supported in Scia Engineer*
6.4.4 (1)	The NA may define the values for the shear resistance of slabs and column bases without shear reinforcement *NA data supported in Scia Engineer*
6.4.5 (3)	The NA may define the values for the maximum shear resistance of slabs and column bases without shear reinforcement *NA data supported in Scia Engineer*
6.4.5 (4)	The NA may define the factor for distance of shear reinforcement from the outermost perimeter *No default implementation/Not supported for Scia Engineer*
6.5.2 (2)	The NA may define the values for the design compressive strength for concrete struts *NA data supported in Scia Engineer*
6.5.4 (4)	The NA may define the factor for the design compressive strength for concrete struts within nodes *NA data supported in Scia Engineer*
6.5.4 (6)	The NA may define the factor for the design compressive strength for concrete struts within triaxially compressed nodes *No default implementation/Not supported for Scia Engineer*
6.8.4 (1)	The NA may define the partial factor for the fatigue verification *No default implementation/Not supported for Scia Engineer*
6.8.4 (5)	The NA may define the factor for the reduction of the stress exponent for straight and bent bars *No default implementation/Not supported for Scia Engineer*

6.8.6 (1)	The NA may define the limit for the stress range under frequent cyclic load for fatigue resistance of the unwelded reinforcing bars under tension *No default implementation/Not supported for Scia Engineer*
6.8.6 (3)	The NA may define the limit for the stress range under frequent cyclic load for fatigue resistance of the welded reinforcing bars under tension *No default implementation/Not supported for Scia Engineer*
6.8.7 (1)	The NA may define the number of cycles for fatigue resistance for concrete under compression *No default implementation/Not supported for Scia Engineer*
7.2 (2)	The NA may define the factor for limit of the compressive stress in areas exposed to environments of exposure classes XD, XF and XS *NA data supported in Scia Engineer*
7.2 (3)	The NA may define the factor for limit of the compressive stress if linear or non-linear creep should be considered *NA data supported in Scia Engineer*
7.2 (5)	The NA may define the factors for limit of the stress in concrete *NA data supported in Scia Engineer*
7.3.1 (5)	The NA may define the values for limit of the crack width *NA data supported in Scia Engineer*
7.3.2 (4)	The NA may define the value for limit tensile stress in concrete in prestress members *No default implementation/Not supported for Scia Engineer*
7.3.4 (3)	The NA may define the coefficient for final crack spacing *NA data supported in Scia Engineer*
7.4.2 (2)	The NA may define the factor to take into account the different structural systems and span/effective depth ratios *No default implementation/Not supported for Scia Engineer*
8.2 (2)	The NA may define the values for spacing of bars *NA data supported in Scia Engineer*
8.3 (2)	The NA may define the values for mandrel diameter for bent bars *NA data supported in Scia Engineer*

8.6 (2)	The NA may define the value for anchorage capacity of welded transverse bar *No default implementation/Not supported for Scia Engineer*
8.8 (1)	The NA may define the value of larger diameter *No default implementation/Not supported for Scia Engineer*
9.2.1.1 (1)	The NA may define the value for minimal of longitudinal tension reinforcement area *NA data supported in Scia Engineer*
9.2.1.1 (3)	The NA may define the value for maximal of longitudinal reinforcement area *NA data supported in Scia Engineer*
9.2.1.2 (1)	The NA may define the factor for minimal of longitudinal reinforcement area in section at support *NA data supported in Scia Engineer*
9.2.1.4 (1)	The NA may define the factor for minimal of longitudinal reinforcement area in section at support *No default implementation/Not supported for Scia Engineer*
9.2.2 (4)	The NA may define the factor for shear reinforcement in the form of links *No default implementation/Not supported for Scia Engineer*
9.2.2 (5)	The NA may define the value for minimal ratio of shear reinforcement *NA data supported in Scia Engineer*
9.2.2 (6)	The NA may define the value for the maximum longitudinal spacing between shear assemblies *NA data supported in Scia Engineer*
9.2.2 (7)	The NA may define the value for the maximum longitudinal spacing of bent-up bars *No default implementation/Not supported for Scia Engineer*
9.2.2 (8)	The NA may define the value for the maximum transverse spacing of the legs in series of shear links *NA data supported in Scia Engineer*
9.3.1.1(3)	The NA may define the value for maximal spacing of bars in the slab *NA data supported in Scia Engineer*
9.5.2 (1)	The NA may define the value for minimal diameter of longitudinal bars in the column

	NA data supported in Scia Engineer
9.5.2 (2)	The NA may define the value for minimal longitudinal reinforcement area in the column *NA data supported in Scia Engineer*
9.5.2 (3)	The NA may define the value for maximal longitudinal reinforcement area in the column *NA data supported in Scia Engineer*
9.5.3 (3)	The NA may define the value for the maximum spacing of the transverse reinforcement along the column *NA data supported in Scia Engineer*
9.6.2 (1)	The NA may define the values for minimal and maximal vertical reinforcement area in the wall *NA data supported in Scia Engineer*
9.6.3 (1)	The NA may define the value for minimal horizontal reinforcement area in the wall *NA data supported in Scia Engineer*
9.7 (1)	The NA may define the value for minimal orthogonal reinforcement mesh area in the deep beam *NA data supported in Scia Engineer*
9.8.1 (3)	The NA may define the value for the minimum bar diameter in the pile cap *No default implementation/Not supported for Scia Engineer*
9.8.2.1 (1)	The NA may define the value for the minimum bar diameter in the column and wall footings *No default implementation/Not supported for Scia Engineer*
9.8.3 (1)	The NA may define the value for the minimum bar diameter in the tie beam *No default implementation/Not supported for Scia Engineer*
9.8.3 (2)	The NA may define the value of the minimum downward load in the tie beam *No default implementation/Not supported for Scia Engineer*
9.8.4 (1)	The NA may define the value for the minimum bar diameter in the column footing on the rock and minimal ground pressure in the ultimate state *No default implementation/Not supported for Scia Engineer*
9.8.5 (3)	The NA may define the value of the minimum longitudinal reinforcement area in bored piles

	No default implementation/Not supported for Scia Engineer
9.10.2.2 (2)	The NA may define the values of the tensile force in peripheral ties *No default implementation/Not supported for Scia Engineer*
9.10.2.3 (3)	The NA may define the value of the tensile force in internal ties *No default implementation/Not supported for Scia Engineer*
9.10.2.3 (4)	The NA may define the values of the minimum force on internal beam line *No default implementation/Not supported for Scia Engineer*
9.10.2.4 (2)	The NA may define the values of the tensile force in horizontal ties *No default implementation/Not supported for Scia Engineer*
11.3.5 (1)P	The NA may define the coefficient taking account of long term effects on the compressive strength for lightweight aggregate concrete *No default implementation/Not supported for Scia Engineer*
11.3.5 (2)P	The NA may define the coefficient taking account of long term effects on the tensile strength for lightweight aggregate concrete *No default implementation/Not supported for Scia Engineer*
11.3.7 (1)	The NA may define the factor for increasing characteristic strength of lightweight confined concrete *No default implementation/Not supported for Scia Engineer*
11.6.1 (1)	The NA may define the values for shear resistance of lightweight concrete without shear reinforcement *No default implementation/Not supported for Scia Engineer*
11.6.2 (1)	The NA may define the reduction factor for the crushing resistance of the concrete struts *No default implementation/Not supported for Scia Engineer*
11.6.4.1 (1)	The NA may define the values for punching shear resistance of lightweight concrete without shear reinforcement *No default implementation/Not supported for Scia Engineer*
12.3.1 (1)	The NA may define the coefficient taking account of long term effects on the compressive and tensile strength for plain concrete *NA data supported in Scia Engineer*

12.6.3 (2)	The NA may define the coefficient for design stress for plain concrete *NA data supported in Scia Engineer*
A.2.1 (1)	The NA may define the reduced partial safety factor for reinforcement based on reduced deviations *No default implementation/Not supported for Scia Engineer*
A.2.1 (2)	The NA may define the reduced partial safety factor for concrete based on quality control reduced deviations *No default implementation/Not supported for Scia Engineer*
A.2.2 (1)	The NA may define the reduced partial safety factors for reinforcement based on using reduced or measured geometrical data in design *No default implementation/Not supported for Scia Engineer*
A.2.2 (2)	The NA may define the reduced partial safety factor for concrete based on using reduced or measured geometrical data in design *No default implementation/Not supported for Scia Engineer*
A.2.3 (1)	The NA may define the conversion factor and the reduced partial safety factor for concrete strength in finished structure *No default implementation/Not supported for Scia Engineer*
C.1 (1)	The NA may define the values for properties of reinforcement suitable for use with this Eurocode *No default implementation/Not supported for Scia Engineer*
C.1 (3)	The NA may define the values for properties of reinforcement for individual tests *No default implementation/Not supported for Scia Engineer*
E.1 (2)	The NA may define the values for indicative strength classes for durability *No default implementation/Not supported for Scia Engineer*
J.1 (2)	The NA may define the values for minimal area of surface reinforcement *No default implementation/Not supported for Scia Engineer*
J.2.2 (2)	The NA may define the value for limit tanθ in frame corners *No default implementation/Not supported for Scia Engineer*
J.3 (2)	The NA may define the factor for closed horizontal or inclined reinforcement in short corbel *No default implementation/Not supported for Scia Engineer*

J.3 (3)	The NA may define the factor for closed vertical or inclined reinforcement in short corbel *No default implementation/Not supported for Scia Engineer*

EN 1992-1-2

Article	Commentary
2.1.3 (2)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
2.3 (2)P	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
3.2.3 (5)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
3.3.3 (1)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
4.1 (1)P	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
4.5.1 (2)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
5.2 (3)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
5.3.2 (2)	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
5.6.1 (1)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
5.7.3 (2)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.1 (5)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*

6.2 (2)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.3.1 (1)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.4.2.1 (3)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.4.2.2 (2)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*

EN 1992-2

Article	Commentary
3.1.2 (102)P	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
3.1.6 (101)P	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
3.1.6 (102)P	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
3.2.4 (101)P	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
4.2 (105)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
4.2 (106)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
4.4.1.2 (109)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
5.1.3 (101)P	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*

5.2 (105)	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
5.3.2.2 (104)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
5.5 (104)	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
5.7 (105)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.1 (109)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.1 (110)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.2.2 (101)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.2.3 (103)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.2.3 (107)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.2.3 (109)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.8.1 (102)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
6.8.7 (101)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
7.2 (102)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis

	No default implementation/Not supported for Scia Engineer
7.3.1 (105)	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
7.3.3 (101)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
7.3.4 (101)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
8.9.1 (101)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
8.10.4 (105)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
8.10.4 (107)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
9.1 (103)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
9.2.2 (101)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
9.5.3 (101)	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*
9.7 (102)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
9.8.1 (103)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
11.9 (101)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*

113.2 (102)	The NA may define the distance of provided joints for neglect the temperature and shrinkage effects in global analysis *No default implementation/Not supported for Scia Engineer*
113.3.2 (103)	The NA may define the partial factor for shrinkage action *NA data supported in Scia Engineer*

Overview of National Annexes

This chapter provides overview of specific implementation of the articles supported in Scia Engineer for different countries. Two-letter country codes are according ISO 3166-1 alpha-2. For detailed information about specific National Annex implementation see next chapter.

Overview is presented in table with following rule:

Standard EN is used
🟩

Different values according National Annex
🟥

Not supported for Scia Engineer
🟪

National Annex is not yet supported, using Standard EN
⬜

EN 1992-1-1

Article	Parameter	AT	BE	GB	CY	CZ	DK	NL	FI	FR	DE	GR	IE	IT	LU	MY	NO	PL	RO	SG	SK	SI	ES	SE
2.3.3 (3)	d_{joint}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
2.4.2.1 (1)	γ_{SH}	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
2.4.2.2 (1)	$\gamma_{p,fav}$	🟩	🟩	🟥	⬜	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟥	⬜	🟩	🟥	🟥	🟩	🟩	🟥	🟩	🟩	🟩	🟩
2.4.2.2 (2)	$\gamma_{p,unfav}$	🟩	🟩	🟥	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟥	⬜	🟩	🟥	🟥	🟩	🟩	🟥	🟩	🟩	🟩	🟩
2.4.2.2 (3)	$\gamma_{p,unfav}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
2.4.2.3 (1)	$\gamma_{F,fat}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
2.4.2.4 (1)	Tab. 2.1N	🟩	🟩	🟩	⬜	🟩	🟥	🟥	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟥	🟥	🟩	🟩	🟩	🟥	🟩
2.4.2.4 (2)	γ_C, γ_S	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
2.4.2.5 (2)	k_f	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
3.1.2 (2)P	C_{max}	🟩	🟩	🟥	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟥	🟩	⬜	🟩	🟥	🟥	🟩	🟩	🟥	🟩	🟩	🟩	🟥
3.1.2 (4)	k_t	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
3.1.6 (1)P	α_{cc}	🟩	🟥	🟥	⬜	🟩	🟩	🟩	🟥	🟩	🟥	🟥	🟥	⬜	🟥	🟥	🟥	🟩	🟩	🟥	🟩	🟩	🟩	🟩
3.1.6 (2)P	α_{ct}	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩
3.2.2 (3)P	f_{yk}	🟩	🟥	🟩	⬜	🟩	🟩	🟩	🟥	🟥	🟥	🟥	🟥	⬜	🟩	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟥	🟩
3.2.7 (2)	ε_{ud}	🟩	🟥	🟩	⬜	🟩	🟩	🟩	🟥	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩
3.3.4 (5)	k	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
3.3.6 (7)	ε_{ud}	🟩	🟥	🟩	⬜	🟩	🟩	🟥	🟥	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩
4.4.1.2 (3)	$c_{min,b}$	🟩	🟥	🟩	⬜	🟩	🟩	🟥	🟥	🟩	🟥	🟩	🟩	⬜	🟥	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟥	🟩
4.4.1.2 (5)	Tab. 4.3N-4.5N	🟥	🟩	🟥	⬜	🟥	🟥	🟥	🟥	🟩	🟥	🟩	🟥	⬜	🟩	🟥	🟥	🟩	🟩	🟥	🟥	🟩	🟥	🟥
4.4.1.2 (6)	$\Delta c_{dur,\gamma}$	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩
4.4.1.2 (7)	$\Delta c_{dur,st}$	🟩	🟩	🟩	⬜	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩
4.4.1.2 (8)	$\Delta c_{dur,add}$	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩
4.4.1.2 (13)	k_1, k_2, k_3	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩
4.4.1.3 (1)P	Δc_{dev}	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
4.4.1.3 (3)	reduce Δc_{dev}	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟥	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩
4.4.1.3 (4)	k_1, k_2	🟩	🟩	🟥	⬜	🟩	🟩	🟥	🟥	🟩	🟥	🟩	🟥	⬜	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥

5.1.3 (1)P	load cases	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.2 (5)	θ_0	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
5.5 (4)	$k_1 – k_6$	🟩	🟩	🟥	⬜	🟩	🟩	🟥	🟥	🟩	🟥	🟩	🟥	⬜	🟩	🟥	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟩
5.6.3 (4)	$\theta_{pl,d}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.8.3.1 (1)	λ_{lim}	🟩	🟩	🟩	⬜	🟥	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟥	🟩	🟥	🟩
5.8.3.3 (1)	k_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.8.3.3 (2)	k_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.8.5 (1)	methods	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.8.6 (3)	γ_{CE}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.10.1 (6)	methods	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.10.2.1 (1)P	k_1, k_2	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩
5.10.2.1 (2)	k_3	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩
5.10.2.2 (4)	k_4, k_5	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.10.2.2 (5)	k_6	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩
5.10.3 (2)	k_7, k_8	🟥	🟥	🟩	⬜	🟩	🟩	🟩	🟩	🟥	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
5.10.8 (2)	$\Delta\sigma_{p,ULS}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.10.8 (3)	$\gamma_{\Delta p,sup}$, $\gamma_{\Delta p,inf}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.10.9 (1)P	r_{sup}, r_{inf}	🟥	🟥	🟥	⬜	🟩	🟩	🟥	🟥	🟩	🟩	🟩	🟥	⬜	🟩	🟥	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟩
6.2.2 (1)	c_{Rdc}, v_{min}, k_1	🟩	🟥	🟩	⬜	🟩	🟥	🟥	🟩	🟥	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟥	🟩
6.2.2 (6)	v	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
6.2.3 (2)	cot θ	🟥	🟥	🟥	⬜	🟥	🟩	🟩	🟩	🟥	🟥	🟩	🟥	⬜	🟩	🟥	🟥	🟥	🟩	🟥	🟩	🟩	🟥	🟥
6.2.3 (3)	v_1, α_{cw}	🟩	🟩	🟥	⬜	🟩	🟩	🟩	🟩	🟥	🟥	🟩	🟥	⬜	🟩	🟥	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟩
6.2.4 (4)	cot θ_t	🟩	🟩	🟩	⬜	🟥	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩
6.2.4 (6)	k	🟩	🟥	🟩	⬜	🟩	🟩	🟩	🟩	🟥	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
6.4.3 (6)	β	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
6.4.4 (1)	c_{Rdc}, v_{min}, k_1	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟥	🟩
6.4.5 (3)	$v_{Rd,max}$	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟥	🟩	🟩	🟥	🟥
6.4.5 (4)	k	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.5.2 (2)	v'	🟩	🟥	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
6.5.4 (4)	k_1, k_2, k_3	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩

6.5.4 (6)	k_4	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.8.4 (1)	Tab. 6.3N, 6.4N	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.8.4 (5)	k_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.8.6 (1)	k_1, k_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.8.6 (3)	k_3	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.8.7 (1)	N, k_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
7.2 (2)	k_1	🟩	🟥	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩
7.2 (3)	k_2	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
7.2 (5)	k_3, k_4, k_5	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟥	🟥	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥
7.3.1 (5)	w_{max}	🟩	🟩	🟥	⬜	🟩	🟥	🟥	🟥	🟥	🟥	🟩	🟥	⬜	🟩	🟥	🟥	🟩	🟩	🟥	🟩	🟩	🟥	🟥
7.3.2 (4)	$\sigma_{ct,p}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
7.3.4 (3)	k_3, k_4	🟥	🟩	🟩	⬜	🟥	🟥	🟥	🟩	🟥	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥
7.4.2 (2)	H_d	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
8.2 (2)	k_1, k_2	🟥	🟩	🟩	⬜	🟥	🟩	🟩	🟥	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟥	🟩	🟥	🟩
8.3 (2)	D_{min}	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟥	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟩	🟩
8.6 (2)	F_{btd}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
8.8 (1)	Φ_{large}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.2.1.1 (1)	$A_{s,min}$	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟩
9.2.1.1 (3)	$A_{s,max}$	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟥	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥
9.2.1.2 (1)	β_1	🟩	🟩	🟥	⬜	🟥	🟩	🟩	🟩	🟩	🟥	🟩	🟥	⬜	🟩	🟥	🟩	🟩	🟩	🟥	🟥	🟩	🟩	🟩
9.2.1.4 (1)	β_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.2.2 (4)	β_3	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.2.2 (5)	$\rho_{w,min}$	🟥	🟩	🟩	⬜	🟩	🟥	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟥	🟩
9.2.2 (6)	$s_{l,max}$	🟥	🟩	🟩	⬜	🟥	🟩	🟥	🟩	🟥	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟥	🟩	🟥	🟩
9.2.2 (7)	$s_{b,max}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.2.2 (8)	$s_{t,max}$	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟥	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟥	🟩	🟩	🟩	🟥	🟩
9.3.1.1(3)	$s_{max,slab}$	🟥	🟥	🟩	⬜	🟥	🟩	🟩	🟥	🟩	🟥	🟩	🟩	⬜	🟥	🟩	🟩	🟩	🟥	🟩	🟥	🟩	🟥	🟩
9.5.2 (1)	Φ_{min}	🟥	🟥	🟥	⬜	🟥	🟩	🟩	🟩	🟩	🟥	🟩	🟥	⬜	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟥	🟩
9.5.2 (2)	$A_{s,min}$	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟥	🟩	🟩	🟥	🟥	🟥
9.5.2 (3)	$A_{s,max}$	🟥	🟩	🟩	⬜	🟥	🟩	🟩	🟥	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟩	🟩	🟩	🟥	🟥

9.5.3 (3)	$s_{cl,tmax}$	🟥	🟥	🟩	⬜	🟩	🟩	🟩	🟥	🟩	🟥	🟩	🟩	⬜	🟥	🟩	🟥	🟩	🟥	🟩	🟥	🟥	🟥	🟩
9.6.2 (1)	$A_{s,vmin}$	🟩	🟩	🟩	⬜	🟩	🟩	🟥	🟥	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟥	🟥	🟥
9.6.3 (1)	$A_{s,hmin}$	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟥	🟩	🟥	🟩	🟩	🟩	🟥	🟩
9.7 (1)	$A_{s,dbmin}$	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟥	🟩	🟥	🟩	🟥	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
9.8.1 (3)	Φ_{min}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.8.2.1 (1)	Φ_{min}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.8.3 (1)	Φ_{min}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.8.3 (2)	q_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.8.4 (1)	Φ_{min}, q_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.8.5 (3)	$A_{s,bpmin}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.10.2.2 (2)	q_1, Q_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.10.2.3 (3)	$F_{tie,int}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.10.2.3 (4)	q_3, Q_4	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.10.2.4 (2)	$F_{fie,fac}$, $F_{tie,col}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
11.3.5 (1)P	$\alpha_{l,cc}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
11.3.5 (2)P	$\alpha_{l,ct}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
11.3.7 (1)	k	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
11.6.1 (1)	$C_{l,Rdc}$, $v_{l,min}$, k_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
11.6.2 (1)	v_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
11.6.4.1 (1)	k_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
12.3.1 (1)	$\alpha_{cc,pl}$, $\alpha_{ct,pl}$	🟩	🟩	🟩	⬜	🟩	🟥	🟩	🟥	🟩	🟥	🟩	🟥	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	🟩	🟥
12.6.3 (2)	k	🟩	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟥	🟩	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩
A.2.1 (1)	$\gamma_{S,red1}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
A.2.1 (2)	$\gamma_{C,red1}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
A.2.2 (1)	$\gamma_{C,red2}$, $\gamma_{S,red2}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
A.2.2 (2)	$\gamma_{C,red3}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
A.2.3 (1)	η, $\gamma_{C,red4}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
C.1 (1)	Tab. C.2N	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
C.1 (3)	Tab. C.3N	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
E.1 (2)	Tab. E.1N	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪

J.1 (2)	$A_{s,surfmin}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
J.2.2 (2)	tg θ	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
J.3 (2)	k_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
J.3 (3)	k_2	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪

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Article	Parameter	AT	BE	GB	CY	CZ	DK	NL	FI	FR	DE	GR	IE	IT	LU	MY	NO	PL	RO	SG	SK	SI	ES	SE
2.1.3 (2)	$\Delta\theta_1$, $\Delta\theta_2$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
2.3 (2)P	$\gamma_{M,fi}$	🟩	🟩	🟩	⬜	🟩	⬜	🟩	🟩	🟩	🟩	🟩	🟩	⬜	🟩	⬜	🟩	🟩	⬜	⬜	🟩	⬜	⬜	🟩
3.2.3 (5)	Class choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
3.3.3 (1)	λ_c	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
4.1 (1)P	Method choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
4.5.1 (2)	k	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.2 (3)	η_{fi}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.3.2 (2)	e_{max}	🟩	🟥	🟩	⬜	🟩	⬜	🟥	🟥	🟩	🟩	🟩	🟩	⬜	🟥	⬜	🟩	🟩	⬜	⬜	🟩	⬜	⬜	🟩
5.6.1 (1)	Class choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.7.3 (2)	Add rules	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.1 (5)	$f_{c,\theta}/f_{ck}$	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.2 (2)	Method choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.3.1 (1)	λ_c	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.4.2.1 (3)	k	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.4.2.2 (2)	Tab. 6.1N	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪

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Article	Parameter	AT	BE	GB	CY	CZ	DK	NL	FI	FR	DE	GR	IE	IT	LU	MY	NO	PL	RO	SG	SK	SI	ES	SE
3.1.2 (102)P	C_{min}, C_{max}	🟥	⬜	🟥	🟩	🟥	⬜	🟩	🟥	🟥	⬜	🟥	🟥	⬜	🟥	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟥	🟥
3.1.6 (101)P	α_{cc}	🟩	⬜	🟥	🟩	🟥	⬜	🟥	🟩	🟥	⬜	🟩	🟥	⬜	🟥	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟥	🟥

3.1.6 (102)P	α_{ct}	🟩	⬜	🟩	🟩	🟩	⬜	🟩	🟩	🟩	⬜	🟩	🟩	⬜	🟩	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟩	🟩
3.2.4 (101)P	Class choice	🟥	⬜	🟩	🟩	🟩	⬜	🟩	🟩	🟩	⬜	🟥	🟩	⬜	🟩	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟩	🟩
4.2 (105)	Class choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
4.2 (106)	x, y, Class ch.	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
4.4.1.2 (109)	Req. choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.1.3 (101)P	Simpl. choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.2 (105)	θ_0	🟩	⬜	🟩	🟩	🟩	⬜	🟥	🟩	🟩	⬜	🟩	🟩	⬜	🟩	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟩	🟩
5.3.2.2 (104)	t	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
5.5 (104)	$k_1 – k_5$	🟩	⬜	🟩	🟩	🟩	⬜	🟥	🟩	🟩	⬜	🟥	🟩	⬜	🟩	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟩	🟩
5.7 (105)	Method choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.1 (109)	f_{ctx}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.1 (110)	k_{cm}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.2.2 (101)	$C_{Rd,c}$, v_{min}, k_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.2.3 (103)	v_1, α_{cw}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.2.3 (107)	Method choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.2.3 (109)	h_{red}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.8.1 (102)	Add. rules	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
6.8.7 (101)	k_1	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
7.2 (102)	k_1, k_1/f_{ck}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
7.3.1 (105)	w_{max}	🟥	⬜	🟩	🟩	🟥	⬜	🟥	🟥	🟩	⬜	🟩	🟥	⬜	🟥	⬜	⬜	🟩	⬜	⬜	🟥	⬜	🟥	🟥
7.3.3 (101)	Simpl. choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
7.3.4 (101)	Method choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
8.9.1 (101)	Restr. choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
8.10.4 (105)	X, a	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
8.10.4 (107)	Add. rules	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.1 (103)	Add. rules	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.2.2 (101)	Add. rules	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.5.3 (101)	Φ_{min}, $\Phi_{min,mesh}$	🟥	⬜	🟩	🟩	🟥	⬜	🟥	🟥	🟥	⬜	🟥	🟩	⬜	🟩	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟥	🟩
9.7 (102)	s_{mesh}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
9.8.1 (103)	d_{min}	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪

11.9 (101)	Restr. choice	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
113.2 (102)	x	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪	🟪
113.3.2 (103)	k	🟩	⬜	🟩	🟩	🟩	⬜	🟩	🟩	🟩	⬜	🟩	🟩	⬜	🟥	⬜	⬜	🟩	⬜	⬜	🟩	⬜	🟩	🟥

National Annexes

This chapter provides details on the specific implementation of the supported articles for different countries. Only those items for which a country differs from the default EN are elaborated. For more information reference is made to the EN code and the respective National Annex documents.

EN 1992-1-1

Austria

According to Austrian National annex ÖNORM EN 1992-1-1/NA: 2007-02-01
ÖNORM EN 1992-1-1/NA: 2011-12-01
ENTWURF ÖNORM EN 1992-1-1/NA:2016-08

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<tr><td>4.4.1.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (5)</td><td><i>When choosing the “Austrian ÖNORM-EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:</i>

<i>For non-prestress concrete</i>
<table>
<tr><td colspan="2"></td><td colspan="4"><i>Exposure class</i></td></tr>
<tr><td colspan="2"><i>Criteria</i></td><td><i>XC1</i></td><td><i>XC2/XC3/XC4</i></td><td><i>XD1/XD2</i></td><td><i>XD3</i></td></tr>
<tr><td>$c_{min,dur}$</td><td><i>[mm]</i></td><td><i>15</i></td><td><i>25</i></td><td><i>30</i></td><td><i>40</i></td></tr>
</table>

<i>For prestress concrete</i></td></tr>
</table>

		Exposure class			
Criteria		*XC1*	*XC2/XC3/XC4*	*XD1/XD2*	*XD3*
$c_{min,dur}$	***[mm]***	***25***	***35***	***40***	***50***

Design working life of 100 year or greater: ***$c_{min,dur}$ + 5 mm***

Prefabricated or Special quality is assured: ***$c_{min,dur}$ - 5 mm***

When concrete class is same or greater than is in next table: ***$c_{min,dur}$ - 5 mm***

	Exposure class				
Criteria	*XC1*	*XC2*	*XC3/XD1/XD2*	*XC4*	*XD3*
Concrete class	*C25/30*	*C30/37*	*C35/45*	*C40/50*	*C45/55*

minimal value of $c_{min,dur}$ is 15 mm

4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*When choosing the "**Austrian ÖNORM-EN NA method**" the value of increasing of nominal concrete cover due deviation is given in the National Annex:* ***Δc_{dev} = 5 mm***
4.4.1.3 (3)	*When choosing the "**Austrian ÖNORM-EN method**" the values of accepted deviations for increasing of nominal concrete cover are given in the National Annex:* ***Δc_{dev}*** *reduction is set to* ***0 mm***
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*When choosing the "**Austrian ÖNORM-EN NA method**" the value of factor to calculate the maximum stress applied to the tendon during tensioning is given in the National Annex:*

	$k_3 = 0.92$
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*When choosing the "**Austrian ÖNORM-EN NA method**" the values of factors to calculate the maximum stress in prestressing reinforcement after anchoring are given in the National Annex:* $k_7 = 0.70$ $k_8 = 0.80$
5.10.9 (1)P	*When choosing the "**Austrian ÖNORM-EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension* $r_{sup} = r_{inf} = 1.0$ *The values of factors to consider the possible upper and lower variation in the prestress in post-tension or bonded tendons are using the default EN*
NCI to 6.1(4)	*When choosing the "**Austrian ÖNORM-EN NA method**" the usage of minimal value of eccentricity is given in the National Annex:* $e = \max(e_0 + e_i + e_2; e_{min})$ *where:* e_0 … 1^{st} *order eccentricity* e_i … *eccentricity from imperfections* e_2 … 2^{nd} *order eccentricity* e_{min} … *minimal value of eccentricity according clause 6.1(4)*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Austrian ÖNORM-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* $\theta_{min} = 30.96° \text{ (tan = 0.6)}$ *The values of maximum angle are using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*

6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*When choosing the "**Austrian ÖNORM-EN NA method**" the expression for maximal punching shear resistance is given in the National Annex:* $v_{Rd,max} = \min(0.4 \cdot v \cdot f_{cd}; \kappa \cdot v_{Rd,c} \cdot u_1 / u_0)$ *where:* *For d ≤ 200 mm:* $\kappa = 1.40$ *For d ≥ 700 mm:* $\kappa = 1.65$ *Intermediate values of κ are linearly interpolated according d*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*When choosing the "**Austrian ÖNORM-EN NA method**" the values of coefficients to calculate the design compressive strength are given in the National Annex:* $k_1 = 1.25$ $k_2 = 0.90$
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
7.3.4 (3)	*When choosing the "**Austrian ÖNORM-EN NA method**" the values of coefficients to calculate maximum final crack spacing are given in the National Annex:* $k_3 = 0$ $k_4 = 1 / (3.6 \cdot k_1 \cdot k_2) \leq (\rho_{p,eff} \cdot \sigma_s) / (3.6 \cdot k_1 \cdot k_2 \cdot f_{ct,eff})$
NCI to 7.3.4 (3)	*When choosing the "**Austrian ÖNORM-EN NA method**" the equation to calculation maximum crack spacing is given in the National Annex:* *After inputting* k_3*=0 and* k_4 *into equation 7.11, the equation is simplified to* $s_{r,max} = \phi / (3.6 \cdot \rho_{p,eff}) \leq (\sigma_s \cdot \phi) / (3.6 \cdot f_{ct,eff})$
8.2 (2)	*When choosing the "**Austrian ÖNORM-EN NA method**" the value of coefficient for calculation minimum clear bar distance and value of minimal clear bar distance are given in the National Annex:*

	$k_1 = 1.4$ $k_2 = 0$ **mm** *for one layer of reinforcement at checked edge* $k_2 = 10$ **mm** *for more layers of reinforcement at checked edge*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*When choosing the "**Austrian ÖNORM-EN NA method**" the formula for calculation minimum ratio of shear reinforcement is given in the National Annex:* $\rho_{w,min} = 0.15 \cdot f_{ctm} / f_{yd}$
9.2.2 (6)	*When choosing the "**Austrian ÖNORM-EN NA method**" the formula for calculation maximum spacing between shear assemblies is given in the National Annex:* $s_{l,max} = 0.75 \cdot d \cdot (1 + \cot \alpha) \leq 250$ mm
9.2.2 (8)	*When choosing the "**Austrian ÖNORM-EN NA method**" the formula for calculation maximum transverse spacing of the legs in series is given in the National Annex:* $s_{t,max} = 0.75 \cdot d \leq 800$ mm
9.3.1.1(3)	*When choosing the "**Austrian ÖNORM-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:* *for principal reinforcement:* $s_{max,slab} = 1.5 \cdot h \leq 250$ mm *for secondary reinforcement:* $s_{max,slab} = 3.0 \cdot h \leq 350$ mm
9.5.2 (1)	*When choosing the "**Austrian ÖNORM-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* *for h ≥ 200 mm:* $\phi_{min} = 12$ mm *in other cases:* $\phi_{min} = 10$ mm
9.5.2 (2)	*When choosing the "**Austrian ÖNORM-EN NA method**" the formula for calculation minimum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,min} = 0.13 \cdot N_{Ed} / f_{yd} \geq 0.0026 \cdot A_c$

9.5.2 (3)	*When choosing the "**Austrian ÖNORM-EN NA method**" the formula for calculation maximum area of longitudinal reinforcement in column is given in the National Annex:* *for in-situ concrete members:* $A_{s,max} = 0.08 \cdot A_c$ *for prefabricated members:* $A_{s,max} = 0.09 \cdot A_c$
NCI to 9.5.2 (4)	*When choosing the "**Austrian ÖNORM-EN NA method**" the value of minimal number of longitudinal bars in circular columns is given in the National Annex:* $n_{l,min} = 6$
9.5.3 (3)	*When choosing the "**Austrian ÖNORM-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = \min(12 \cdot \phi_l; b_{min}; 250\ mm)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*When choosing the "**Austrian ÖNORM-EN NA method**" the formula for calculation minimum area of horizontal reinforcement in wall is given in the National Annex:* $A_{s,hmin} = 0.001 \cdot A_c$
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Belgium

According to Belgian National annex NBN EN 1992-1-1/NA: 2010-02

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*Using the default EN*

3.1.6 (1)P	*When choosing the "***Belgian NBN-EN NA method***" the value of coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* $\alpha_{cc} = 0.85$
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*When choosing the "***Belgian NBN-EN NA method***" the upper limit of yield strength of reinforcement is given in the National Annex:* $f_{yk} = 500$ **MPa**
3.2.7 (2)	*When choosing the "***Belgian NBN-EN NA method***" the value of characteristic strain limit is given in the National Annex:* $\varepsilon_{uk} = 0.8$
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*When choosing the "***Belgian NBN-EN NA method***" the value of characteristic strain limit for prestressed reinforcement is given in the National Annex:* $\varepsilon_{ud} = 0.8 \cdot \varepsilon_{uk}$
4.4.1.2 (3)	*When choosing the "***Belgian NBN-EN NA method***" the values of minimum cover for pre-tensioned tendons are given in the National Annex:* *for strand or plain wire:* ***2 x*** *diameter* *for indented wire:* ***3 x*** *diameter*
4.4.1.2 (5)	*Using the default EN*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*

5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*When choosing the "**Belgian NBN-EN NA method**" the value of coefficient for increasing of limit stress in concrete for pretension members is given in the National Annex:* $k_6 = 0.667 \cdot f_{cm}(t) / f_{ck}(t)$, *where t = 28 days*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*When choosing the "**Belgian NBN-EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension and post-tension* $r_{sup} = r_{inf} = 1.0$
6.2.2 (1)	*When choosing the "**Belgian NBN-EN NA method**" the values for calculation of shear resistance of members not requiring design shear reinforcement are given in the National Annex:* *For members with plate geometry is default EN multiplicated by factor 1.25:* $c_{Rd,c} = 1.25 \cdot 0.18 / \gamma_C$ $v_{min} = 1.25 \cdot 0.035 \cdot k^{3/2} \cdot f_{ck}^{1/2}$ $k_1 = 1.25 \cdot 0.15$ *Other members using default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Belgian NBN-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* $\theta_{min} = 18.43\,°$ ***(cotg = 3)*** *The values of maximum angle is using the default EN*
6.2.3 (3)	*Using the default EN*

6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*When choosing the "**Belgian NBN-EN NA method**" the value of coefficient k is given in the National Annex:* ***k = 0.5***
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*When choosing the "**Belgian NBN-EN NA method**" the value of strength reduction factor for concrete cracked in shear is given in the National Annex:* $v = (1 - f_{ck} / 250) / \alpha_{cc}$ (f_{ck} ***in MPa)***
6.5.4 (4)	*Using the default EN*
7.2 (2)	*When choosing the "**Belgian NBN-EN NA method**" the coefficient for limit compressive stress is given in the National Annex:* $k_1 = 0.5$ *for environment classes XD, XF and XS* $k_1 = 0.6$ *for other environment classes*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
7.3.4 (3)	*Using the default EN*
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN where* f_{yk} *is replaced by* f_{ywk}

9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*When choosing the "**Belgian NBN-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:* *for principal reinforcement:* $s_{max,slab} = 2.5 \cdot h \leq 400$ **mm** *for secondary reinforcement:* $s_{max,slab} = 3.0 \cdot h \leq 450$ **mm** *Concentrated areas are not recognised*
9.5.2 (1)	*When choosing the "**Belgian NBN-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\phi_{min} = 12$ **mm**
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*When choosing the "**Belgian NBN-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = \min(15 \cdot \phi_l; b_{min}; 300 \text{ mm})$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

United Kingdom

According to British National annex BS EN 1992-1-1/NA: 2005-12

Article	Commentary
2.4.2.1 (1)	*Using the default EN*

2.4.2.2 (1)	*When choosing the "**British BS-EN NA method**" the value partial factor for prestress action - favourable is given in the National Annex:* $\gamma_{P,fav}$ ***= 0.9***
2.4.2.2 (2)	*When choosing the "**British BS-EN NA method**" the value partial factor for prestress action - unfavourable is given in the National Annex:* $\gamma_{P,fav}$ ***= 1.1***
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*When choosing the "**British BS-EN NA method**" the value of maximal concrete strength class is given in the National Annex:* *For shear strength:* C_{max} ***= C50/60*** *For other cases:* C_{max} ***= C90/105***
3.1.6 (1)P	*When choosing the "**British BS-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* α_{cc} ***= 0.85*** *for compression in flexure and axial loading* α_{cc} ***= 1.0*** *for other phenomena*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*When choosing the "**British BS-EN NA method**" the method for determination of the minimal concrete cover* $c_{min,dur}$ *is given in the National Annex:* *Using BS 8500-1:2006, tables A.4 and A.5*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*

4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*When choosing the "**British BS-EN NA method**" the values of minimum cover for concrete cast against prepared ground and concrete cast directly against soil are given in the National Annex:* $k_1 = 40$ mm $k_2 = 65$ mm
5.2 (5)	*Using the default EN*
5.5 (4)	*When choosing the "**British BS-EN NA method**" the values of coefficients to calculated the distributed moment when f_{ck} does not exceed 50 MPa are given in the National Annex:* *For reinforcement steel with $f_{yk} \leq 500$ MPa:* $k_1 = k_3 = 0.4$ $k_2 = k_4 = 0.6 + 0.0014 / \varepsilon_{cu2}$ $k_5 = 0.7$ $k_6 = 0.8$ *For reinforcement steel with $f_{yk} > 500$ MPa:* *This reinforcement is not allowed; therefore* $k_1 = k_2 = k_3 = k_4 = k_5 = k_6 = 0$
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*When choosing the "**British BS-EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension and post-tension* $r_{sup} = r_{inf} = 1.0$
6.2.2 (1)	*Using the default EN*

6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**British BS-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* *In standard concrete:* $\theta_{min} = 21.80°$ **(cotg = 2.5)** *In elements in which shear co-exists with externally applied tension* $\theta_{min} = 45°$ **(cotg = 1.0)** *The values of maximum angle are using the default EN*
6.2.3 (3)	*When choosing the "**British BS-EN NA method**" the values for calculation of shear resistance of members with vertical shear reinforcement are given in the National Annex:* $v_1 = v$ *If* $\sigma_{swd} < 0.8 \cdot f_{ywk}$ $v_1 = 0.54 \cdot (1 - 0.5 \cdot \cos(\alpha_s))$ *for* $f_{ck} \leq 60$ *MPa* $v_1 = \max((0.84 - (f_{ck} / 200)) \cdot (1 - 0.5 \cdot \cos(\alpha_s)); 0.5)$ *for* $f_{ck} > 60$ *MPa* *The coefficient taking account of the state of the stress in the compression chord* α_{cw} *is using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*

<table>
<tr><td>7.3.1 (5)</td><td>*When choosing the “**British BS-EN NA method**” the values of maximal calculated crack width are given in the National Annex:*
<table>
<tr><td>*Exposure class*</td><td>*Reinforced members and prestressed members with unbonded tendons*</td><td>*Prestressed members with bonded tendons*</td></tr>
<tr><td></td><td>*Quasi-permanent load combination*</td><td>*Frequent load combination*</td></tr>
<tr><td>*X0, XC1*</td><td>***0.3***</td><td>***0.2***</td></tr>
<tr><td>*XC2, XC3, XC4*</td><td>***0.3***</td><td>***0.2***</td></tr>
<tr><td>*XD1, XD2, XS1, XS2, XS3*</td><td>***0.3***</td><td>***0.2 (decompression)***</td></tr>
</table>
</td></tr>
<tr><td>7.3.4 (3)</td><td>*Using the default EN*</td></tr>
<tr><td>8.2 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>8.3 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.1.1 (1)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.1.1 (3)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.1.2 (1)</td><td>*When choosing the “**British BS-EN NA method**” the value of coefficient for minimum ratio of span bending moment to be assumed at support in monolithic construction is given in the National Annex:*

$\beta_1 = 0.25$</td></tr>
<tr><td>9.2.2 (5)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.2 (6)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.2 (8)</td><td>*Using the default EN*</td></tr>
<tr><td>9.3.1.1(3)</td><td>*Using the default EN*</td></tr>
<tr><td>9.5.2 (1)</td><td>*When choosing the “**British BS-EN NA method**” the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:*

$\phi_{min} = 12$ mm</td></tr>
<tr><td>9.5.2 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>9.5.2 (3)</td><td>*Using the default EN*</td></tr>
</table>

9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Cyprus

No National Annex currently available, using default EN.

Czech Republic

According to Czech National annex ČSN EN 1992-1-1/NA: 2011-07
ČSN EN 1992-1-1/Opr.1.2009-07
ČSN EN 1992-1-1/Z1.2010-03
ČSN EN 1992-1-1/Opr.2.2011-06
ČSN EN 1992-1-1/Z2.2011-07
ČSN EN 1992-1-1/Z3.2016-05

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*Using the default EN*
3.1.6 (1)P	*Using the default EN*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*

<table>
<tr><td></td><td></td></tr>
<tr><td>4.4.1.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (5)</td><td><i>When choosing the “Czech ČSN-EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:</i>

<i>Table 4.3CZ is used:</i>
<table>
<tr><th colspan="9"><i>Structural Class</i></th></tr>
<tr><th rowspan="2"><i>Criterion</i></th><th colspan="8"><i>Exposure class according to Table 4.1</i></th></tr>
<tr><td><i>X0</i></td><td><i>XC1</i></td><td><i>XC2</i></td><td><i>XC3</i></td><td><i>XC4</i></td><td><i>XD1</i></td><td><i>XD2</i></td><td><i>XD3</i></td></tr>
<tr><td><i>Design Working Life of 80 years</i></td><td><i>increase class by 1</i></td><td><i>increase class by 1</i></td><td><i>increase class by 1</i></td><td><i>increase class by 1</i></td><td><i>increase class by 1</i></td><td><i>increase class by 1</i></td><td><i>increase class by 1</i></td><td><i>increase class by 1</i></td></tr>
<tr><td><i>Design Working Life of 100 years</i></td><td><i>increase class by 2</i></td><td><i>increase class by 2</i></td><td><i>increase class by 2</i></td><td><i>increase class by 2</i></td><td><i>increase class by 2</i></td><td><i>increase class by 2</i></td><td><i>increase class by 2</i></td><td><i>increase class by 2</i></td></tr>
<tr><td><i>Strength Class</i></td><td><i>≥ C20/25</i>
<i>reduce class by 1</i></td><td><i>≥ C25/30</i>
<i>reduce class by 1</i></td><td><i>≥ C30/37</i>
<i>reduce class by 1</i></td><td><i>≥ C35/45</i>
<i>reduce class by 1</i></td><td><i>≥ C40/50</i>
<i>reduce class by 1</i></td><td><i>≥ C40/50</i>
<i>reduce class by 1</i></td><td><i>≥ C40/50</i>
<i>reduce class by 1</i></td><td><i>≥ C45/55</i>
<i>reduce class by 1</i></td></tr>
<tr><td><i>Members with slab geometry</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td></tr>
<tr><td><i>Special Quality Control</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td><td><i>reduce class by 1</i></td></tr>
</table>

<i>Tables 4.4 and 4.5 are used from default EN</i></td></tr>
<tr><td>4.4.1.2 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (7)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (8)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (13)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.2 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.8.3.1 (1)</td><td><i>When choosing the “Czech ČSN-EN NA method” the expression used in default EN remains unchanged, however the expression is limited:</i>

$\boldsymbol{\lambda_{lim} \leq 75}$
$\boldsymbol{\lambda_{lim} = 25}$ <i>for</i> $\boldsymbol{|n| \geq 0.41}$</td></tr>
</table>

	$n = N_{Ed} / (A_c \cdot f_{cd})$
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Czech ČSN-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* *For bending + significant tension:* **$\theta_{min} = \theta_{max} = 45.0$ ° (cotg = 1)** *For bending + significant compression (prestress):* **$\theta_{min} = 21.8$ ° (cotg = 2.5)** **$\theta_{max} = 45$ ° (cotg = 1.0)** *For bending without significant tension or compression:* **$\theta_{min} = 30.0$ ° (cotg = 1.75)** **$\theta_{max} = 45$ ° (cotg = 1.0)** *Significant tension or compression is when* **$N_{Ed} \geq Coeff_{com} \cdot A_c \cdot f_{cd}$** **$Coeff_{com} = 0.1$** *by default, can be changed in Concrete setting*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*When choosing the "**Czech ČSN-EN NA method**" the values for calculation to prevent crushing of the compression struts in the flange are given in the National Annex:* **$\theta_{min,c} = \theta_{max} = 40°$ (cotg = 1.2)** **$\theta_{min,t} = \theta_{max} = 45$ ° (cotg = 1)**
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*

NCI to 6.4.5 (1)	*When choosing the “**Czech ČSN-EN NA method**” the method for shear reinforcement on slabs with punching shear resistance is given in the National Annex:* *Formula (6.52) is limited to* $\boldsymbol{k_{max} \cdot v_{Rd,c}}$ *For h = 200 mm …* $\boldsymbol{k_{max} = 1.45}$ *For h ≥ 700 mm …* $\boldsymbol{k_{max} = 1.70}$ *intermediate values of* k_{max} *are linearly interpolated according h* *For foundation slab …* $\boldsymbol{k_{max} = 1.50}$
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
NCI to 7.3.2(3)	*When choosing the “**Czech ČSN-EN NA method**” the conditions for calculation* $h_{c.ef}$ *are given in the National Annex:* *When* x_r *is greater or equal to* $0.25 \cdot h$ *the depth of effective area of the concrete is calculated by followed formula.* $\boldsymbol{h_{c.ef} = min(2.5 \cdot (h - d), (h – x_r) / 3, h/2)}$ *When* x_r *is lower than* $0.25 \cdot h$ *the depth of effective area of the concrete is calculated by next formula.* $\boldsymbol{h_{c.ef} = min(2.5 \cdot (h - d), h/2)}$
7.3.4 (3)	*When choosing the “**Czech ČSN-EN NA method**” the values of coefficients to calculate maximum final crack spacing are given in the National Annex:* $\boldsymbol{k_3 = 3.4 \cdot (25 / c)^{2/3} \leq 3.4}$ **…** *where c is concrete cover in mm* $\boldsymbol{k_4 = 0.425}$
NCI to 7.3.4 (3)	*When choosing the “**Czech ČSN-EN NA method**” the application of equation 7.14 is given in the National Annex:* *When spacing of reinforcement exceed* $5 \cdot (c + \phi / 2)$ *the equation 7.14 is calculated as maximum from equation 7.14 and 7.11*

	$s_{r,max} = max(1.3 \cdot (h – x); k_3 \cdot c + k_1 \cdot k_2 \cdot k_3 \cdot \phi / \rho_{p,eff})$
8.2 (2)	*When choosing the "**Czech ČSN-EN NA method**" the value of coefficient for calculation minimum clear bar distance and value of minimal clear bar distance are given in the National Annex:* $k_1 = 1.2$ $k_2 = 5$ mm
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*When choosing the "**Czech ČSN-EN NA method**" the value of coefficient for minimum ratio of span bending moment to be assumed at support in monolithic construction is given in the National Annex:* $\beta_1 = 0.25$
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*When choosing the "**Czech ČSN-EN NA method**" the expression used in default EN remains unchanged, however the expression is limited:* $s_{l,max} \leq 400$ mm
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*When choosing the "**Czech ČSN-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:* *for principal reinforcement:* $s_{max,slab} = 2.0 \cdot h \leq 300$ mm *for secondary reinforcement:* $s_{max,slab} = 3.0 \cdot h \leq 400$ mm *Concentrated areas are not recognised*
9.5.2 (1)	*When choosing the "**Czech ČSN-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* *For columns with dimension greater than 200 mm* $\phi_{min} = 12$ mm *Other cases* $\phi_{min} = 10$ mm

9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*When choosing the "**Czech ČSN-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $\boldsymbol{s_{cl,tmax} = \min(15 \cdot \phi_l; b_{min}; 300\ mm)}$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Denmark

According to Danish National annex DS EN 1992-1-1/NA:2017.

<table>
<tr><th>Article</th><th>Commentary</th></tr>
<tr><td>2.4.2.1 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>2.4.2.2 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>2.4.2.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>2.4.2.4 (1)</td><td><i>When choosing the "Danish DS-EN NA method" the values of partial factors for materials for ultimate limit states are calculated differently given in the National Annex:</i>
<table>
<tr><td><i>Design situations</i></td><td>γ_C <i>for concrete</i></td><td>γ_S <i>for reinforcing steel</i></td><td>γ_S <i>for prestressing steel</i></td></tr>
<tr><td><i>Persistent & Transient</i></td><td>$\boldsymbol{1,45 * \gamma_0 * \gamma_3}$</td><td>$\boldsymbol{1,2 * \gamma_0 * \gamma_3}$</td><td><i>1.15</i></td></tr>
<tr><td><i>Accidental</i></td><td><i>1.0</i></td><td><i>1.0</i></td><td><i>1.0</i></td></tr>
</table>
<i>Value</i> $\boldsymbol{\gamma_0}$ <i>is defined in NA dialogue>Concrete>General>General:</i>
$\boldsymbol{\gamma_0=1,0}$</td></tr>
</table>

<table>
<tr><td></td><td>Value γ_3 is dependent on inspection level type defined in NA dialogue>Concrete>General>General:
<table>
<tr><th>Inspection level</th><th>γ_3</th></tr>
<tr><td>Extended</td><td>0,95</td></tr>
<tr><td>Normal</td><td>1.0</td></tr>
<tr><td>Reduced</td><td>1,1</td></tr>
</table>
Partial factors for fatigue are not supported in Scia Engineer</td></tr>
<tr><td>3.1.2 (2)P</td><td>Using the default EN</td></tr>
<tr><td>3.1.6 (1)P</td><td>Using the default EN</td></tr>
<tr><td>3.1.6 (2)P</td><td>Using the default EN</td></tr>
<tr><td>3.2.2 (3)P</td><td>Using the default EN</td></tr>
<tr><td>3.2.7 (2)</td><td>Using the default EN</td></tr>
<tr><td>3.3.4 (5)</td><td>Using the default EN</td></tr>
<tr><td>3.3.6 (7)</td><td>Using the default EN</td></tr>
<tr><td>4.4.1.2 (3)</td><td>Using the default EN</td></tr>
<tr><td>4.4.1.2 (5)</td><td>When choosing the “Danish DS-EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:
Table 4.4N is used:
<table>
<tr><th>Environmental class</th><th>$c_{min,dur}$</th><th>$c_{min,dur}$</th></tr>
<tr><td>Inspection level</td><td>Extended and Normal</td><td>Reduced</td></tr>
<tr><td>Extra aggressive</td><td>40</td><td>45</td></tr>
<tr><td>Aggressive</td><td>30</td><td>35</td></tr>
<tr><td>Moderate</td><td>20</td><td>25</td></tr>
<tr><td>Passive</td><td>10</td><td>15</td></tr>
</table>
The detection of environmental class is as follows:
<table>
<tr><th>Environmental class</th><th>Passive</th><th>Moderate</th><th>Aggressive</th><th>Extra aggressive</th></tr>
<tr><td>Based on DS EN206/1</td><td>X0
XC1</td><td>XC2
XC3
XC4
XF1
XA1</td><td>XD1
XS1
XS2
XF2
XF3</td><td>XD2
XD3
XS3
XF4
XA3</td></tr>
</table></td></tr>
</table>

<table>
<tr><td></td><td><table><tr><td></td><td></td><td></td><td><i>XA2</i></td><td></td></tr></table><i>Table 4.5N Using the default EN:</i></td></tr>
<tr><td>4.4.1.2 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (7)</td><td><i>When choosing the “Danish DS-EN NA method” the method for determination</i> $\Delta c_{dur,st}$ is as follows:<table><tr><td><i>Exposure class</i></td><td>$\Delta c_{dur,st}$</td></tr><tr><td><i>a) All except case b)</i></td><td><i>10mm</i></td></tr><tr><td><i>b) XS3, XF4, XA3</i></td><td><i>0mm</i></td></tr></table></td></tr>
<tr><td>4.4.1.2 (8)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (13)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.2 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.8.3.1 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.10.2.1 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.10.2.1 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.10.2.2 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.10.3 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.10.9 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.2.2 (1)</td><td><i>When choosing the “Danish DS-EN NA method” the values for calculation of shear resistance of members not requiring design shear reinforcement are given in the National Annex:</i>
$v_{min} = (0.051 / \gamma_c) * k^{3/2} * f_{ck}^{1/2}$
C_{Rdc} <i>and</i> k_1 <i>are used the default EN</i></td></tr>
<tr><td>6.2.2 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.2.3 (2)</td><td><i>Using the default EN</i></td></tr>
</table>

<table>
<tr><td>6.2.3 (3)</td><td>Using the default EN</td></tr>
<tr><td>6.2.4 (4)</td><td>Using the default EN</td></tr>
<tr><td>6.2.4 (6)</td><td>Using the default EN</td></tr>
<tr><td>6.4.3 (6)</td><td>Using the default EN</td></tr>
<tr><td>6.4.4 (1)</td><td>Using the default EN</td></tr>
<tr><td>6.4.5 (3)</td><td>Using the default EN</td></tr>
<tr><td>6.5.2 (2)</td><td>Using the default EN</td></tr>
<tr><td>6.5.4 (4)</td><td>Using the default EN</td></tr>
<tr><td>7.2 (2)</td><td>Using the default EN</td></tr>
<tr><td>7.2 (3)</td><td>Using the default EN</td></tr>
<tr><td>7.2 (5)</td><td>Using the default EN</td></tr>
<tr><td>7.3.1 (5)</td><td>When choosing the “Danish DS-EN NA method” the values of maximal calculated crack width are given in the National Annex:
<table>
<tr><td>Exposure class</td><td>w_{max}[mm]</td></tr>
<tr><td>Moderate and passive</td><td>0.4</td></tr>
<tr><td>Aggressive</td><td>0.3</td></tr>
<tr><td>Extra aggressive</td><td>0.2</td></tr>
</table></td></tr>
<tr><td>NCI 7.3.2 (3)</td><td>When choosing the “Danish DS-EN NA method” the expression (h-x)/3 applies solely to slabs where the depth of the tensile zone may be small.</td></tr>
<tr><td>7.3.4 (3)</td><td>When choosing the “Danish DS-EN NA method” the calculation of k_3 factor is as follows:

$k_3 = 3,4(25/c)^{2/3}$ (c in mm).

Where c is concrete cover</td></tr>
<tr><td>8.2 (2)</td><td>Using the default EN</td></tr>
<tr><td>8.3 (2)</td><td>Using the default EN</td></tr>
<tr><td>9.2.1.1 (1)</td><td>Using the default EN</td></tr>
<tr><td>9.2.1.1 (3)</td><td>Using the default EN</td></tr>
<tr><td>9.2.1.2 (1)</td><td>Using the default EN</td></tr>
</table>

9.2.2 (5)	*When choosing the “**Danish DS-EN NA method**” the value of minimal percentage of shear reinforcement is calculated as follows>* $\rho_{w,min} = 0,063 * f_{ck}^{0,5} / f_{yk}$
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*Using the default EN*
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*When choosing the “**Danish DS-EN NA method**” the value of coefficient taking into account longterm effect on plain or lightly reinforced concrete are used as follows:* $\boldsymbol{\alpha_{cc,pl} = 1,0}$ $\boldsymbol{\alpha_{ct,pl} = 1,0}$
12.6.3 (2)	*Using the default EN*

Netherlands

According to Dutch National annex NEN EN 1992-1-1+C2:2011/NB:2011 and updated NEN EN 1992-1-1+C2:2011/NB:2016

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*When choosing the “**Dutch NEN-EN NA method**” the value of partial factors for unfavourable prestress is given in the National Annex:* $\boldsymbol{\gamma_{P,unfav} = 1.2}$

<table>
<tr><td>2.4.2.4 (1)</td><td>

*When choosing the “**Dutch NEN-EN NA method**” the values of partial factors for materials for ultimate limit states are given in the National Annex:*

<table>
<tr><td>Design situations</td><td>γ_C for concrete</td><td>γ_S for reinforcing steel</td><td>γ_S for prestressing steel</td></tr>
<tr><td>Persistent & Transient</td><td>1.5</td><td>1.15</td><td>1.1</td></tr>
<tr><td>Accidental</td><td>1.2</td><td>1.0</td><td>1.0</td></tr>
</table>

Partial factors for fatigue are not supported in Scia Engineer

</td></tr>
<tr><td>3.1.2 (2)P</td><td>Using the default EN</td></tr>
<tr><td>3.1.6 (1)P</td><td>Using the default EN</td></tr>
<tr><td>3.1.6 (2)P</td><td>Using the default EN</td></tr>
<tr><td>3.2.2 (3)P</td><td>Using the default EN</td></tr>
<tr><td>3.2.7 (2)</td><td>Using the default EN</td></tr>
<tr><td>3.3.4 (5)</td><td>

*When choosing the “**Dutch NEN-EN NA method**” the value of ductility factor k is given in National Annex*

$f_{pk} / f_{p01,k} \geq k = 1{,}05$

</td></tr>
<tr><td>3.3.6 (7)</td><td>

*When choosing the “**Dutch NEN-EN NA method**” the value of characteristic strain limit for prestressed reinforcement is given in the National Annex:*

$\varepsilon_{ud} = 0.9 \cdot \varepsilon_{uk}$

</td></tr>
<tr><td>4.4.1.2 (3)</td><td>

*When choosing the “**Dutch NEN-EN NA method**” the values of minimum cover for pre-tensioned tendons are given in the National Annex:*

for strand or plain wire: ***1.5 x*** *diameter*

for indented wire: ***2.5 x*** *diameter*

</td></tr>
<tr><td>4.4.1.2 (5)</td><td>

*When choosing the “**Dutch NEN-EN NA method**” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:*

Table 4.3N is used:

<table>
<tr><th colspan="8">Structural Class</th></tr>
<tr><th rowspan="2">Criterion</th><th colspan="7">Exposure class according to Table 4.1</th></tr>
<tr><td>X0</td><td>XC1</td><td>XC2/XC3</td><td>XC4</td><td>XD1</td><td>XD2/XS1</td><td>XD3/XS2/XS3</td></tr>
<tr><td>Design Working Life of 100 years</td><td>increase class by 2</td><td>increase class by 2</td><td>increase class by 2</td><td>increase class by 2</td><td>increase class by 2</td><td>increase class by 2</td><td>increase class by 2</td></tr>
<tr><td>Design Working</td><td>increase class by 1</td><td>increase class by 1</td><td>increase class by 1</td><td>increase class by 1</td><td>increase class by 1</td><td>increase class by 1</td><td>increase class by 1</td></tr>
</table>

</td></tr>
</table>

Life of 75 years							
Strength Class	*≥ C30/37 reduce class by 1*	*≥ C30/37 reduce class by 1*	*≥ C35/45 reduce class by 1*	*≥ C40/50 reduce class by 1*	*≥ C40/50 reduce class by 1*	*≥ C40/50 reduce class by 1*	*≥ C45/55 reduce class by 1*
Members with slab geometry	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*
Special Quality Control	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*

Table 4.4N is used:

Environmental Requirement for $c_{min,dur}$ [mm]							
Structural Class	**Exposure Class according to Table 4.1**						
	X0	*XC1*	*XC2/XC3*	*XC4*	*XD1/XS1*	*XD2/XS2*	*XD3/XS3*
S1	10	10	10	15	20	25	25
S2	10	10	15	20	25	30	30
S3	10	10	20	25	30	35	35
S4	10	15	25	30	35	40	40
S5	15	20	30	35	40	45	45
S6	20	25	35	40	45	50	50

Table 4.5N is used:

Environmental Requirement for $c_{min,dur}$ [mm]							
Structural Class	**Exposure Class according to Table 4.1**						
	X0	*XC1*	*XC2/XC3*	*XC4*	*XD1/XS1*	*XD2/XS2*	*XD3/XS3*
S1	10	15	15	20	25	30	30
S2	10	15	20	25	30	35	35
S3	10	15	25	30	35	40	40
S4	10	20	30	35	40	45	45
S5	15	25	35	40	45	50	50
S6	20	30	40	45	50	55	55

4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*When choosing the "**Dutch NEN-EN NA method**" the values coefficients for increasing concrete cover for abrasion classes are given in the National Annex:* **$k_1 = k_2 = k_3 = 0$ mm**
4.4.1.3 (1)P	*When choosing the "**Dutch NEN-EN NA method**" the value of increasing of nominal concrete cover due deviation is given in the National Annex:* **Δc_{dev} + 5 mm**

4.4.1.3 (3)	*When choosing the "**Dutch NEN-EN NA method**" the values of accepted deviations for increasing of nominal concrete cover are given in the National Annex:* $0\ mm \leq \Delta c_{dev} \leq 5\ mm$
4.4.1.3 (4)	*When choosing the "**Dutch NEN-EN NA method**" the values of minimum cover for concrete cast against prepared ground and concrete cast directly against soil are given in the National Annex:* $k_1 = c_{min,dur} + 10\ mm$ $k_2 = c_{min,dur} + 50\ mm$
5.2 (5)	*When choosing the "**Dutch NEN-EN NA method**" the value of basic imperfection represented by an inclination is given in the National Annex:* $\theta_0 = 1/300$
5.5 (4)	*When choosing the "**Dutch NEN-EN NA method**" the values of coefficients to calculated the distributed moment are given in the National Annex:* $k_1 = f / (500 + f)$ $k_2 = 1.0$ $k_3 = 7 \cdot f / (\varepsilon_{cu} \cdot 10^6 + 7 \cdot f)$ $k_4 = 1.0$ $k_5 = 0.7$ $k_6 = 0.8$ $f = [(f_{pk} / \gamma_S - \sigma_{pm,\infty}) \cdot A_p + f_{yd} \cdot A_s] / (A_p + A_s)$
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*When choosing the "**Dutch NEN-EN NA method**" the value of factor to calculate the maximum stress applied to the tendon during tensioning is given in the National Annex:* $k_3 = 0.90$
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*When choosing the "**Dutch NEN-EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension and post-tension* $r_{sup} = r_{inf} = 1.0$

NCI to 6.1 (2)P	*When choosing the "**Dutch NEN-EN NA method**" the maximal compressive stress in reinforcing steel is given in the National Annex:* **$\sigma_{sc,min,lim} = 435$ MPa** *(in compression)*
NCI to 6.1 (9)	*When choosing the "**Dutch NEN-EN NA method**" the method for limitation of the height of compression zone given in the National Annex:* *Method is applicable when section is cracked in flexure ($\sigma_{ct,max} \geq f_{ctd}$) and section is loaded by normal force lower than* $N_{lim} = 0.1 \cdot f_{cd} \cdot A_c$ *Limitation of the height of compression zone:* *For $f_{ck} > 50$ MPa:* $x_u / d \leq \varepsilon_{cu} \cdot 10^6 / (\varepsilon_{cu} \cdot 10^6 + 7 \cdot f)$ *For $f_{ck} \leq 50$ MPa:* $x_u / d \leq 500 / (500 + f)$ *where:* x_u *… limit height of compression zone* **d** *… effective height of the cross-section* **$f = f_{yd}$** *because prestressed reinforcement is not implemented in Scia Engineer.* *If reinforcement bars with different materials are used in the section, f = weighted arithmetic mean of f_{yd} from all bars by the area of bars*
6.2.2 (1)	*When choosing the "**Dutch NEN-EN NA method**" the values for calculation of shear resistance of members not requiring design shear reinforcement are given in the National Annex:* *For persistent or transient load:* **$C_{Rdc} = 0.12$** *For accidental load:* **$C_{Rdc} = 0.15$** **k_1** *and* **v_{min}** *are used the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*Using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*

<table>
<tr><td></td><td></td></tr>
<tr><td>6.4.4 (1)</td><td><i>When choosing the “Dutch NEN-EN NA method” the expressions used in default EN remains unchanged, except the value of k_1</i>
<i>In case of compression</i>
$k_1 = 0.1$

<i>In case of tension</i>
$k_1 = 0.5$</td></tr>
<tr><td>6.4.5 (3)</td><td><i>When choosing the “Dutch NEN-EN NA method” the expression for maximal punching shear resistance is given in the National Annex:</i>

$v_{Rd,max} = 0.4 \cdot v \cdot f_{cd}$</td></tr>
<tr><td>6.5.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.5.4 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (5)</td><td><i>When choosing the “Dutch NEN-EN NA method” the factors for maximum stress in reinforcement or prestressing steel are given in the National Annex:</i>

$k_3 = k_4 = k_5 = 0$ mm</td></tr>
<tr><td>7.3.1 (5)</td><td><i>When choosing the “Dutch NEN-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>
<table>
<tr><td><i>Exposure class</i></td><td><i>Reinforced members and prestressed members with unbonded tendons</i></td><td><i>Prestressed members with bonded tendons</i></td></tr>
<tr><td></td><td><i>Frequent load combination</i></td><td><i>Frequent load combination</i></td></tr>
<tr><td><i>X0, XC1</i></td><td>0.4</td><td>0.3</td></tr>
<tr><td><i>XC2, XC3, XC4</i></td><td>0.3</td><td>0.2</td></tr>
<tr><td><i>XD1, XD2, XS1, XS2, XS3</i></td><td>0.2</td><td>0.1</td></tr>
</table>
<i>The value from table 7.1N is multiplied by factor k_x</i>

$k_x = 1 \leq c / c_{nom} \leq 2$

<i>c is concrete cover which is used in construction</i>
<i>c_{nom} is nominal cover calculated by chapter 4.4.1.1(2)P</i></td></tr>
</table>

7.3.4 (3)	*When choosing the "**Dutch NEN-EN NA method**" the max crack spacing ($s_{r,max}$) is additionally limited by new values* **$s_{r,max} \leq \max\{(50-0,8.f_{ck}).\Phi; 15. \Phi\}$** where Φ is reinforcement diameter
8.2 (2)	*Using the default EN*
8.3 (2)	*When choosing the "**Dutch NEN-EN NA method**" the values of minimum mandrel diameter of bars and wires for bends, hooks and loops are given in the National Annex:* *Bar diameter* — *Minimum mandrel* ***$\phi \leq 16$ mm*** — ***4ϕ*** ***$\phi > 16$ mm*** — ***5ϕ***
9.2.1.1 (1)	*When choosing the "**Dutch NEN-EN NA method**" the minimum reinforcement area of longitudinal reinforcement in beams is given in the National Annex:* $A_{s,min} = \min(A_{s,min1}; A_{s,min2})$ $A_{s,min1}$ *is calculated according chapter 6.1 on combinations of moment* $M_{E,min}$ *and normal force* $N_{E,min}$ $A_{s,min2}$ *is 1.25 times the area required to test in the ultimate limit state* *where:* $M_{E,min} = f_{ctm} \cdot W \cdot \eta / (\eta - 1)$ *… when* $N_{E,min}$ *is compression* $M_{E,min} = f_{ctm} \cdot W \cdot \eta / (\eta + 1)$ *… when* $N_{E,min}$ *is tension* $M_{E,min} = f_{ctm} \cdot W$ *… pure bending* $N_{E,min} = f_{ctm} \cdot A_c \cdot 1 / (1 - \eta)$ *… when* $N_{E,min}$ *is compression* $N_{E,min} = f_{ctm} \cdot A_c \cdot 1 / (1 + \eta)$ *… when* $N_{E,min}$ *is tension* *where:* W *… Elastic section modulus to the most tensile fibre* $\eta = e \cdot A_c / W$ *where:* e *… 1st order eccentricity from the considered load combination*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*When choosing the "**Dutch NEN-EN NA method**" the expression used in default EN remains unchanged, however the expression is limited:* $s_{l,max} \leq 300$ mm

9.2.2 (8)	*When choosing the "**Dutch NEN-EN NA method**" the maximal transversal spacing of stirrups is determined as follows:* ***If** $V_{Ed} > 0,5.\ V_{Rd,max}$ $s_{st,max}$ **= min (0.75.d;500mm)*** ***If** $V_{Ed} \leq 0,5.\ V_{Rd,max}$ $s_{st,max}$ **= 500mm***
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*Using the default EN*
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*When choosing the "**Dutch NEN-EN NA method**" the formula for calculation minimum and maximum area of vertical reinforcement in wall is given in the National Annex:* $A_{s,vmin}$ ***= 0 mm²*** *(minimal area is not limited)* $A_{s,vmax} = 0.04 \cdot A_c$
9.6.3 (1)	*When choosing the "**Dutch NEN-EN NA method**" the formula for calculation minimum area of horizontal reinforcement in wall is given in the National Annex:* $A_{s,hmin}$ ***= 0 mm²*** *(minimal area is not limited)*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Finland

According to Finnish National annex SFS EN 1992-1-1/NA

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*When choosing the "**Finnish SFS-EN NA method**" the value partial factor for prestress action - favourable is given in the National Annex:* $\gamma_{P,fav} = 0.9$

<table>
<tr><td>2.4.2.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>2.4.2.4 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.2 (2)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.6 (1)P</td><td><i>When choosing the “Finnish SFS-EN NA method” the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:</i>

$\alpha_{cc} = 0.85$</td></tr>
<tr><td>3.1.6 (2)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.2.2 (3)P</td><td><i>When choosing the “Finnish SFS-EN NA method” the upper limit of yield strength of reinforcement is given in the National Annex:</i>

$f_{yk} = 700$ <i>MPa</i></td></tr>
<tr><td>3.2.7 (2)</td><td><i>When choosing the “Finnish SFS-EN NA method” the value of characteristic strain limit is given in the National Annex:</i>

$\varepsilon_{ud} = 1$ <i>%</i></td></tr>
<tr><td>3.3.4 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.3.6 (7)</td><td><i>When choosing the “Finnish SFS-EN NA method” the value of characteristic strain limit for prestressed reinforcement is given in the National Annex:</i>

$\varepsilon_{ud} = 2$ <i>%</i></td></tr>
<tr><td>4.4.1.2 (3)</td><td><i>When choosing the “Finnish SFS-EN NA method” the values of minimum cover for pre-tensioned tendons are given in the National Annex:</i>

<i>for strand or plain wire: 2 x diameter</i>
<i>for indented wire: 2 x diameter</i></td></tr>
<tr><td>4.4.1.2 (5)</td><td><i>When choosing the “Finnish SFS-EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:</i>

<i>Table 4.3N (FI) is used:</i>
<table>
<tr><th colspan="9"><i>Requirement for value of minimum cover $c_{min,dur}$ according to exposure classes [mm]</i></th></tr>
<tr><th rowspan="2"><i>Criterion</i></th><th colspan="8"><i>Exposure class according to Table 4.1</i></th></tr>
<tr><th><i>X0</i></th><th><i>XC1</i></th><th><i>XC2
XC3</i></th><th><i>XC4</i></th><th><i>XD1</i></th><th><i>XS1</i></th><th><i>XD2</i></th><th><i>XD3
XS2,3</i></th></tr>
<tr><td><i>Reinforcing steel</i></td><td><i>10</i></td><td><i>10</i></td><td><i>20</i></td><td><i>25</i></td><td><i>30</i></td><td><i>30</i></td><td><i>35</i></td><td><i>40</i></td></tr>
<tr><td><i>Prestressing steel</i></td><td><i>10</i></td><td><i>20</i></td><td><i>30</i></td><td><i>35</i></td><td><i>40</i></td><td><i>40</i></td><td><i>45</i></td><td><i>50</i></td></tr>
</table>
</td></tr>
</table>

Design working life 100 years	*+0*	*+0*	*+5*	*+5*	*+5*	*+5*	*+5*	*+5*
Concrete strength ≥	*C20/25 -5*	*C30/37 -5*	*C35/45 -5*	*C35/45 -5*	*C35/45 -5*	*C40/50 -5*	*C35/45 -5*	*C45/55 -5*
Construction class 1 (RakMK B4)	*-5*	*-5*	*-5*	*-5*	*-5*	*-5*	*-5*	*-5*

4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*When choosing the "**Finnish SFS-EN NA method**" the values of accepted deviations for increasing of nominal concrete cover are given in the National Annex:* $5\ mm \leq \Delta c_{dev} \leq 10\ mm$
4.4.1.3 (4)	*When choosing the "**Finnish SFS-EN NA method**" the values of minimum cover for concrete cast against prepared ground and concrete cast directly against soil are given in the National Annex:* $k_1 = c_{min,dur} + 10\ mm$ $k_2 = c_{min,dur} + 30\ mm$ *For uneven surface* $c_{min,dur} + 5\ mm$
5.2 (5)	*Using the default EN*
5.5 (4)	*When choosing the "**Finnish SFS-EN NA method**" the values of coefficients to calculated the distributed moment are given in the National Annex:* $k_1 = 0.44$ $k_2 = 1.10$ $k_3 = 0.54$ $k_4 = 1.25 \cdot (0.6 + 0.0014 / \varepsilon_{cu,2})$ $k_5 = k_6 = 1$ when $100 \cdot \varepsilon_{uk} \cdot f_t / f_{yk} < 2.5$ $k_5 = k_6 = 0.9 - 3.21 \cdot \varepsilon_{uk} \cdot f_t / f_{yk}$ when $100 \cdot \varepsilon_{uk} \cdot f_t / f_{yk} \geq 2.5$
5.8.3.1 (1)	*Using the default EN*

5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*When choosing the "**Finnish SFS-EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension and post-tension* $r_{sup} = r_{inf} = 1.0$
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*Using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*When choosing the "**Finnish SFS-EN NA method**" the factors for maximum stress in reinforcement or prestressing steel are given in the National Annex:* $k_3 = 0.6$ $k_4 = 0.8$ $k_5 = 0.6$

7.3.1 (5)	*When choosing the “**Finnish SFS-EN NA method**” the values of maximal calculated crack width are given in the National Annex:*
7.3.4 (3)	*Using the default EN*
8.2 (2)	*When choosing the “**Finnish SFS-EN NA method**” the value of coefficient for calculation minimum clear bar distance and value of minimal clear bar distance are given in the National Annex:* ***k_1 = 1*** ***k_2 = 3 mm***
8.3 (2)	*When choosing the “**Finnish SFS-EN NA method**” the values of minimum mandrel diameter of bars and wires for bends, hooks and loops are given in the National Annex:*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*When choosing the “**Finnish SFS-EN NA method**” the value of maximum area of longitudinal reinforcement is given in the National Annex:* ***$A_{s,max}$ is unlimited***
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*

7.3.1 (5):

Exposure class	Reinforced members and prestressed members with unbonded tendons	Prestressed members with bonded tendons
	Quasi-permanent load combination	Frequent load combination
X0, XC1	***0.4***	***0.2***
XC2, XC3, XC4, XD1, XS1	***0.3***	***0.2***
XD2, XD3, XS2, XS3	***0.2***	***Decompression***

8.3 (2):

Bar diameter	*Minimum mandrel*
$\phi \leq 16$ mm	***4ϕ***
$\phi > 16$ mm	***7ϕ***

9.3.1.1(3)	*When choosing the "**Finnish SFS-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:* *for principal reinforcement is formula same as in default EN* *for secondary reinforcement:* $s_{max,slab} = 4.0 \cdot h \leq 600\ mm$ *Concentrated areas are same as in default EN*
9.5.2 (1)	*Using the default EN*
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*When choosing the "**Finnish SFS-EN NA method**" the formula for calculation maximum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,max} = 0.06 \cdot A_c$ *Laps are not recognised in Scia Engineer*
9.5.3 (3)	*When choosing the "**Finnish SFS-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = min(15 \cdot \phi_l; b_{min}; 400\ mm)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column*
9.6.2 (1)	*When choosing the "**Finnish SFS-EN NA method**" the formula for calculation minimum and maximum area of vertical reinforcement in wall is given in the National Annex:* $A_{s,vmin} = 0.002 \cdot A_c$ $A_{s,vmax} = 0.06 \cdot A_c$
9.6.3 (1)	*Using the default EN*
9.7 (1)	*When choosing the "**Finnish SFS-EN NA method**" the formula for calculation minimum are of reinforcement in deep beams in each face and each direction is given in the National Annex:* $A_{s,dbmin} = 0.0005 \cdot A_c \geq 150\ mm^2/m$
12.3.1 (1)	*When choosing the "**Finnish SFS-EN NA method**" the coefficients taking account of long term effects on the compressive and tensile strength and of unfavourable effects resulting from the way the load is applied for plain concrete are given in the National Annex:* $\alpha_{cc,pl} = 0.80$

	$\alpha_{ct,pl}$ ***= 0.60***
12.6.3 (2)	*Using the default EN*

France

According to French National annex NF EN 1992-1-1/NA:2007-03

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*Using the default EN*
3.1.6 (1)P	*Using the default EN*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*When choosing the "**French NF-EN NA method**" the upper limit of yield strength of reinforcement is given in the National Annex:* f_{yk} ***= 500 MPa***
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*Using the default EN*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*

4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*When choosing the "**French NF-EN NA method**" the values of factors to calculate the maximum stress in prestressing reinforcement after anchoring are given in the National Annex:* *For post-tension:* $k_7 = 0.77$ *and* $k_8 = 0.87$ *For pre-tension:* $k_7 = 0.80$ *and* $k_8 = 0.90$
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*When choosing the "**French NF-EN NA method**" the values for calculation of shear resistance of members not requiring design shear reinforcement are given in the National Annex:* *For slabs with transverse redistribution effect for the considered loading case:* $v_{min} = 0.34 / \gamma_C \cdot f_{ck}^{1/2}$ *For beams and slabs other than before:* $v_{min} = 0.053 / \gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ *For walls:* $v_{min} = 0.35 / \gamma_C \cdot f_{ck}^{1/2}$ $c_{Rd,c}$ *and* k_1 *are same as in default EN*
6.2.2 (6)	*Using the default EN*

6.2.3 (2)	*When choosing the "**French NF-EN NA method**" the value of minimum and maximum angle between the concrete compression strut and the beam axis perpendicular to the shear force are given in the National Annex:* *In compression or in simple bending:* $\theta_{min} = 21.80$ ° (cotg = 2.5) $\theta_{max} = 45$ ° (cotg = 1) *In tension:* $\theta_{min} = \text{arccotg}\ (2.5 \cdot (1 + \sigma_{ct} / f_{ctm})^{1/2})$ $\theta_{max} = \text{arccotg} = ((1 + \sigma_{ct} / f_{ctm})^{1/2})$
6.2.3 (3)	*When choosing the "**French NF-EN NA method**" the values for calculation of shear resistance of members with vertical shear reinforcement are given in the National Annex:* v_1 *is calculated according default EN* *members without tension force:* $\alpha_{cw} = 1.0$ *members with composed bending with tension:* $\alpha_{cw} = \alpha_{cw,t} = 1 + \sigma_{cp} / f_{ctm}$ σ_{cp} *is cross-section axial stress at the centre of gravity, where positive is compressive and negative is tensile stress. Therefore,* α_{cw} *is less than 1 for axial tension stress.*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*When choosing the "**French NF-EN NA method**" the value of coefficient k is given in the National Annex:* *for vertical joints:* $k = 0.5$ *for horizontal joints:* $k = 1.0$
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*

<table>
<tr><td></td><td></td></tr>
<tr><td>7.2 (5)</td><td>*When choosing the “**French NF-EN NA method**” the factors for maximum stress in reinforcement or prestressing steel are given in the National Annex:*
$k_3 = 0.8$
$k_4 = 1.0$
$k_5 = 0.8$</td></tr>
<tr><td>7.3.1 (5)</td><td>*When choosing the “**French NF-EN NA method**” the values of maximal calculated crack width are given in the National Annex:*
<table>
<tr><td>*Exposure class*</td><td>Reinforced members and prestressed members with unbonded tendons</td><td>Prestressed members with bonded tendons</td></tr>
<tr><td></td><td>Quasi-permanent load combination</td><td>Frequent load combination</td></tr>
<tr><td>*X0, XC1*</td><td>***0.4***</td><td>***0.2***</td></tr>
<tr><td>XC2, XC3, XC4</td><td>***0.3***</td><td>***0.2***</td></tr>
<tr><td>XD1, XD2, XS1, XS2, XS3, XD3</td><td>***0.2***</td><td>***decompression***</td></tr>
</table>
</td></tr>
<tr><td>NCI to 7.3.2(3)</td><td>*When choosing the “**French NF-EN NA method**” the conditions for calculation $h_{c.ef}$ are given in the National Annex:*
$h_{c.ef} = \min(2.5 \cdot (h - d), h/2)$</td></tr>
<tr><td>7.3.4 (3)</td><td>*When choosing the “**French NF-EN NA method**” the values of coefficients to calculate maximum final crack spacing are given in the National Annex:*
$c \leq 25$ mm: **$k_3 = 3.4$**
$c > 25$ mm: **$k_3 = 3.4 \cdot (25 / c)^{2/3}$**
where c is concrete cover in mm
k_4 *is same as in default EN*</td></tr>
<tr><td>8.2 (2)</td><td>*Using the default EN*
Deep foundations are not recognised in Scia Engineer</td></tr>
<tr><td>8.3 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.1.1 (1)</td><td>*Using the default EN*
Condition for post-tension members is not implemented</td></tr>
<tr><td>9.2.1.1 (3)</td><td>*Using the default EN*</td></tr>
</table>

9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*When choosing the "**French NF-EN NA method**" the formula for calculation maximum spacing between shear assemblies is given in the National Annex:* $h > 250$ mm: $s_{l,max} = 0.75 \cdot d \cdot (1 + \cot \alpha)$ $h \leq 250$ mm: $s_{l,max} = 0.90 \cdot d$
9.2.2 (8)	*When choosing the "**French NF-EN NA method**" the formula for calculation maximum transverse spacing of the legs in series is given in the National Annex:* $h > 250$ mm: $s_{t,max} = 0.75 \cdot d \leq 600$ mm $h \leq 250$ mm: $s_{t,max} = 0.9 \cdot d$
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*Using the default EN*
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*Using the default EN* *Special case for plain and lightly reinforced walls is not implemented.*
9.6.3 (1)	*Using the default EN* *Special case for plain and lightly reinforced walls is not implemented.*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN* *Special cases for tunnels are not implemented in Scia Engineer*
12.6.3 (2)	*Using the default EN*

Germany

According to German National annex DIN EN 1992-1-1/NA:2011-01

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*When choosing the "**German DIN-EN NA method**" the values of partial factors for materials for ultimate limit states are given in the National Annex:* <table><tr><td>*Design situations*</td><td>*γ_C for concrete*</td><td>*γ_S for reinforcing and prestressing steel*</td></tr><tr><td>*Persistent & Transient*</td><td>***1.5***</td><td>***1.15***</td></tr><tr><td>*Accidental*</td><td>***1.3***</td><td>***1.0***</td></tr></table> *Partial factors for fatigue are not supported in Scia Engineer*
3.1.2 (2)P	*When choosing the "**German DIN-EN NA method**" the value of maximal concrete strength class is given in the National Annex:* **C_{max} = C100/115**
3.1.6 (1)P	*When choosing the "**German DIN-EN NA method**" the value of coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* **$\alpha_{cc} = 0.85$**
3.1.6 (2)P	*When choosing the "**German DIN-EN NA method**" the value of coefficient taking account of long term effects on the tensile strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* **$\alpha_{ct} = 0.85$** *Condition according clause 8.4.2(2) is not implemented*
3.2.2 (3)P	*When choosing the "**German DIN-EN NA method**" the upper limit of yield strength of reinforcement is given in the National Annex:* **f_{yk} = 500 MPa**
3.2.7 (2)	*When choosing the "**German DIN-EN NA method**" the value of characteristic strain limit is given in the National Annex:* **ε_{ud} = 2.5 %**

<table>
<tr><th></th><th></th></tr>
<tr><td>3.3.4 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.3.6 (7)</td><td><i>Using the default EN</i>
<i>Special diagram is not implemented</i></td></tr>
<tr><td>4.4.1.2 (3)</td><td><i>When choosing the “German DIN-EN NA method” the values of minimum cover for pre-tensioned tendons are given in the National Annex:</i>
<i>for strand or plain wire: 2.5 x diameter</i></td></tr>
<tr><td>4.4.1.2 (5)</td><td><i>When choosing the “German DIN-EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:</i>
<i>Tables 4.3DE, 4.4DE and 4.5DE are used as modification to default EN tables</i>
<i>Table 4.3N is modified by 4.3DE:</i>
<table>
<tr><th colspan="8"><i>Requirement for value of minimum cover $c_{min,dur}$ according to exposure classes [mm]</i></th></tr>
<tr><th rowspan="2"><i>Criterion</i></th><th colspan="7"><i>Exposure class according to Table 4.1</i></th></tr>
<tr><td><i>X0 XC1</i></td><td><i>XC2</i></td><td><i>XC3</i></td><td><i>XC4</i></td><td><i>XD1 XS1</i></td><td><i>XD2 XS2</i></td><td><i>XD3 XS3</i></td></tr>
<tr><td><i>Concrete strength ≥</i></td><td><i>0</i></td><td><i>C25/30
-5</i></td><td><i>C30/37
-5</i></td><td><i>C35/45
-5</i></td><td><i>C40/50
-5</i></td><td><i>C45/55
-5</i></td><td><i>C45/55
-5</i></td></tr>
</table>
<i>Table 4.4N is modified by 4.4DE – basic structural class S3</i>
<table>
<tr><th colspan="8"><i>Requirement for value of minimum cover $c_{min,dur}$ according to exposure classes [mm]</i></th></tr>
<tr><th rowspan="2"><i>Criterion</i></th><th colspan="7"><i>Exposure class according to Table 4.1</i></th></tr>
<tr><td><i>X0</i></td><td><i>XC1</i></td><td><i>XC2 XC3</i></td><td><i>XC4</i></td><td><i>XD1 XS1</i></td><td><i>XD2 XS2</i></td><td><i>XD3 XS3</i></td></tr>
<tr><td><i>S3 -> Standard construction for 50 years</i></td><td><i>10</i></td><td><i>20</i></td><td><i>20</i></td><td><i>25</i></td><td><i>30</i></td><td><i>35</i></td><td><i>40</i></td></tr>
</table>
<table>
<tr><th colspan="8"><i>Table 4.5N is modified by 4.5DE – basic structural class S3</i>
<i>Requirement for value of minimum cover $c_{min,dur}$ according to exposure classes [mm]</i></th></tr>
<tr><th rowspan="2"><i>Criterion</i></th><th colspan="7"><i>Exposure class according to Table 4.1</i></th></tr>
<tr><td><i>X0</i></td><td><i>XC1</i></td><td><i>XC2 XC3</i></td><td><i>XC4</i></td><td><i>XD1 XS1</i></td><td><i>XD2 XS2</i></td><td><i>XD3 XS3</i></td></tr>
<tr><td><i>S3 -> Standard construction for 50 years</i></td><td><i>10</i></td><td><i>20</i></td><td><i>30</i></td><td><i>35</i></td><td><i>40</i></td><td><i>45</i></td><td><i>50</i></td></tr>
</table>
</td></tr>
<tr><td>4.4.1.2 (6)</td><td><i>When choosing the “German DIN-EN NA method” the value of concrete cover increasing by additive safety element $\Delta c_{dur,\gamma}$ is given in the National Annex:</i>
<i>Additive safe ty element according table 4.4DE is used:</i>
<i>for XD1 or XS1: $\Delta c_{dur,\gamma}$ = +10 mm</i>
<i>for XD2 or XS2: $\Delta c_{dur,\gamma}$ = +5 mm</i></td></tr>
<tr><td>4.4.1.2 (7)</td><td><i>Using the default EN</i></td></tr>
</table>

4.4.1.2 (8)	*When choosing the “***German DIN-EN NA method***” the value of concrete cover reduction by additional protection (coating)* $\Delta c_{dur,add}$ *is given in the National Annex:* *Cover reduction according table 4.5DE is used:* *for X0, XC, XS:* $\boldsymbol{\Delta c_{dur,add} = 0}$ ***mm*** *for XD:* $\boldsymbol{\Delta c_{dur,add} = 10}$ ***mm***
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*When choosing the “***German DIN-EN NA method***” the values for decreasing the deviations for increasing of nominal concrete cover are given in the National Annex:* *If the extra quality management during planning, fabrication and construction is assured:* $\boldsymbol{\Delta c_{dev} - 5}$ ***mm***
4.4.1.3 (4)	*When choosing the “***German DIN-EN NA method***” the values of minimum cover for concrete cast against prepared ground and concrete cast directly against soil are given in the National Annex:* $\boldsymbol{k_1 = 20}$ ***mm*** $\boldsymbol{k_2 = 50}$ ***mm***
5.2 (5)	*When choosing the “***German DIN-EN NA method***” the value of basic imperfection represented by an inclination is given in the National Annex:* $\boldsymbol{\theta_0 = \min(1 / (100 \cdot \sqrt{l}) \cdot 1 / \alpha_h; 1 / 200 \cdot 1 / \alpha_h)}$
5.5 (4)	*When choosing the “***German DIN-EN NA method***” the values of coefficients to calculated the distributed moment are given in the National Annex:* $\boldsymbol{k_1 = 0.64}$ $\boldsymbol{k_2 = 0.8}$ $\boldsymbol{k_3 = 0.72}$ $\boldsymbol{k_4 = 0.8}$ $\boldsymbol{k_5 = 0.7}$ *for* $f_{ck} \leq 50$ *MPa and* $\boldsymbol{k_5 = 0.8}$ *for* $f_{ck} > 50$ *MPa* $\boldsymbol{k_6 = 0.85}$ *for* $f_{ck} \leq 50$ *MPa and* $\boldsymbol{k_6 = 1.0}$ *for* $f_{ck} > 50$ *MPa*
5.8.3.1 (1)	*When choosing the “***German DIN-EN NA method***” the slenderness criterion where second order effects may be ignored is given in the National Annex:* $\boldsymbol{\lambda_{lim} = 25}$ *for* $\lvert n \rvert \geq 0.41$ $\boldsymbol{\lambda_{lim} = 16 / \sqrt{n}}$ *for* $\lvert n \rvert < 0.41$ *where:* $\boldsymbol{n = N_{Ed} / (A_c \cdot f_{cd})}$

5.10.2.1 (1)P	*When choosing the "**German DIN-EN NA method**" the value of factor to calculate the force to the tendon during tensioning is given in the National Annex:* $k_1 = 0.8 \cdot k_\mu$ $k_2 = 0.9 \cdot k_\mu$ *where:* $k_\mu = e^{-\mu \cdot \gamma(\kappa-1)}$
5.10.2.1 (2)	*Using the default EN* *Value for concrete bridges is not implemented*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*When choosing the "**German DIN-EN NA method**" the values for calculation of shear resistance of members not requiring design shear reinforcement are given in the National Annex:* $c_{Rd,c} = 0.15 / \gamma_C$ $k_1 = 0.12$ *For d ≤ 600 mm:* $v_{min} = (0.0525 / \gamma_C) \cdot k^{3/2} \cdot f_{ck}^{1/2}$ *For d > 800 mm:* $v_{min} = (0.0375 / \gamma_C) \cdot k^{3/2} \cdot f_{ck}^{1/2}$ *For intermediate values of d is used linear interpolation.*
6.2.2 (6)	*When choosing the "**German DIN-EN NA method**" the value for strength reduction factor for concrete cracked in shear is given in the National Annex:* *For shear force:* $v = 0.675$ *For torsion force:* $v = 0.525$ *Shear check in joint:* - *very smooth joint:* $v = 0$ - *smooth joint:* $v = 0.20$ - *rough joint:* $v = 0.50$ - *toothed joint:* $v = 0.70$
6.2.3 (2)	*When choosing the "**German DIN-EN NA method**" the value of minimum angle and maximum between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members are given in the National Annex:*

	θ_{min} = 18.43 ° (cotg = 3.0) *For pure bending and bending with pressure:* ***θ_{max} = 39.80 ° (cotg = 1.2)*** *For bending with tension:* ***θ_{max} = 45.0 ° (cotg = 1.0)*** *Equations (NA.6.7a) and (NA.6.7b) are not implemented*
6.2.3 (3)	*When choosing the "**German DIN-EN NA method**" the values for calculation of shear resistance of members with vertical shear reinforcement are given in the National Annex:* *For ≤ C50/60:* ***v_1 = 0.75*** *For ≥ C55/67:* ***$v_1 = 0.75 \cdot (1.1 - f_{ck} / 500)$*** ***$\alpha_{cw}$ = 1.0***
6.2.4 (4)	*When choosing the "**German DIN-EN NA method**" the values for calculation to prevent crushing of the compression struts in the flange are given in the National Annex:* ***$\theta_{min,c}$ = 39.84 ° (cotg = 1.2)*** ***$\theta_{min,t}$ = 45.0 ° (cotg = 1)*** ***θ_{max} = 59.89 ° (cotg = 0.58)*** *Calculation according 6.2.3 (2) is not implemented. Simplification values are implemented.*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*When choosing the "**German DIN-EN NA method**" the values for calculation punching shear resistance of slabs and column bases without shear resistance are given in the National Annex:* *For $u_0 / d \geq 4$:* ***$C_{Rdc} = 0.18 / \gamma_c$*** *For internal columns and $u_0 / d < 4$:* ***$C_{Rdc} = 0.18 / \gamma_c \cdot (0.1 \cdot u_0 / d +0.6)$*** *For single fundaments where $a \leq 3$:* ***$C_{Rdc} = 0.12 / \gamma_c \cdot \lambda^{0.4}$*** ***$\lambda = a_\lambda / d$*** ***$k_1$ = 0.1*** ***v_{min}*** *is according 6.2.2(1)*
6.4.5 (3)	*When choosing the "**German DIN-EN NA method**" the limitation for maximum shear resistance is given in the National Annex:* ***$v_{Rd,max} = 11 \cdot (d / u_0)^{1/2} \cdot v_{Rd,c}$***
6.5.2 (2)	*When choosing the "**German DIN-EN NA method**" the value of strength reduction factor for concrete cracked in shear is given in the National Annex:*

<table>
<tr><td></td><td>$v' = 1$</td></tr>
<tr><td>6.5.4 (4)</td><td><i>When choosing the “German DIN-EN NA method” the values of coefficients to calculate the design compressive strength are given in the National Annex:</i>

$k_1 = 1.1$
$k_2 = 0.75$</td></tr>
<tr><td>7.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (5)</td><td><i>When choosing the “German DIN-EN NA method” the factors for maximum stress in reinforcement or prestressing steel are given in the National Annex:</i>

$k_3 = 0.8$
$k_4 = 1.0$
$k_5 = 0.65$</td></tr>
<tr><td>7.3.1 (5)</td><td><i>When choosing the “German DIN-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>
<table>
<tr><td><i>Exposure class</i></td><td>Reinforced members and prestressed members with unbonded tendons</td><td>Post-tensioned members</td><td>Prestressed members with bonded tendons</td></tr>
<tr><td></td><td>Quasi-permanent load combination</td><td>Frequent load combination</td><td>Frequent load combination</td></tr>
<tr><td><i>X0, XC1</i></td><td><i>0.4</i></td><td><i>0.2</i></td><td><i>0.2</i></td></tr>
<tr><td>XC2, XC3, XC4,</td><td rowspan="2"><i>0.3</i></td><td rowspan="2"><i>0.2</i></td><td><i>0.2</i></td></tr>
<tr><td>XD1, XD2, XD3, XS1, XS2, XS3</td><td><i>Decompression</i></td></tr>
</table>
</td></tr>
<tr><td>NCI to 7.3.2(3)</td><td><i>When choosing the “German DIN-EN NA method” the conditions for calculation $h_{c.ef}$ are given in the National Annex:</i>

<i>When $(h - x_r) / 3$ is greater or equal to concrete cover + 20 mm the depth of effective area of the concrete is calculated by followed formula.</i>
$h_{c.ef} = \min(Coeff_{hc.ef} \cdot (h - d), (h - x_r) / 3, h/2)$

<i>When $(h - x_r) / 3$ is lower than concrete cover + 20 mm the depth of effective area of the concrete is calculated by next formula.</i>
$h_{c.ef} = \min(Coeff_{hc.ef} \cdot (h - d), h/2)$

<i>$Coeff_{hc.ef}$ depends on ratio $h / (h - d)$</i>
$h / (h - d) \leq 5 : Coeff_{hc.ef} = 2.5$</td></tr>
</table>

<table>
<tr><td></td><td><i>$h / (h – d) > 5$ and ≤ 30 : $Coeff_{hc.ef}$ = linear interpolation between 2.5 and 5</i>
<i>$h / (h – d) > 30$: $Coeff_{hc.ef} = 5.0$</i></td></tr>
<tr><td>7.3.4 (3)</td><td><i>When choosing the “German DIN-EN NA method” the values of coefficients to calculate maximum final crack spacing are given in the National Annex:</i>

$k_1 \cdot k_2 = 1$
$k_3 = 0$
$k_4 = 1 / 3.6$</td></tr>
<tr><td>NCI to 7.3.4 (3)</td><td><i>When choosing the “German DIN-EN NA method” the equation to calculation maximum crack spacing is given in the National Annex:</i>

<i>Equations (7.11) and (7.14) are limited to</i>
$s_{r,max} \leq (\sigma_s \cdot \phi) / (3.6 \cdot f_{ct,eff})$</td></tr>
<tr><td>8.2 (2)</td><td><i>When choosing the “German DIN-EN NA method” the value of coefficient for calculation minimum clear bar distance and value of minimal clear bar distance are given in the National Annex:</i>

$k_1 = 1.0$
<i>For $d_g \leq 16$ mm:</i> $k_2 = 0$ mm
<i>For $d_g > 16$ mm:</i> $k_2 = 5$ mm</td></tr>
<tr><td>8.3 (2)</td><td><i>When choosing the “German DIN-EN NA method” the values of minimum mandrel diameter of bars and wires for bends, hooks and loops are given in the National Annex:</i>

<table><tr><td><i>Bar diameter</i></td><td><i>Minimum mandrel</i></td></tr><tr><td>$\phi < 20$ mm</td><td>4ϕ</td></tr><tr><td>$\phi \geq 20$ mm</td><td>7ϕ</td></tr></table><i>Other values from table NA.8.1 are not implemented</i></td></tr>
<tr><td>9.2.1.1 (1)</td><td><i>When choosing the “German DIN-EN NA method” the minimum reinforcement area of longitudinal reinforcement in beams is given in the National Annex:</i>

$A_{s,min} = 0 \cdot b_t \cdot d = 0\ mm^2$
<i>($A_{s,min}$ is unlimited)</i></td></tr>
<tr><td>9.2.1.1 (3)</td><td><i>When choosing the “German DIN-EN NA method” the value of maximum area of longitudinal reinforcement is given in the National Annex:</i>

$A_{s,max} = 0.08 \cdot A_c$</td></tr>
<tr><td>9.2.1.2 (1)</td><td><i>When choosing the “German DIN-EN NA method” the value of coefficient for minimum ratio of span bending moment to be assumed at support in monolithic construction is given in the National Annex:</i></td></tr>
</table>

<table>
<tr><td></td><td>$\beta_1 = 0.25$</td></tr>
<tr><td>9.2.2 (5)</td><td>

*When choosing the "**German DIN-EN NA method**" the formula for calculation minimum ratio of shear reinforcement is given in the National Annex:*

For pretension members: $\rho_{w,min} = 0.256 \cdot f_{ctm} / f_{yd}$

For other members: $\rho_{w,min} = 0.16 \cdot f_{ctm} / f_{yd}$

</td></tr>
<tr><td>9.2.2 (6)</td><td>

*When choosing the "**German DIN-EN NA method**" the value of maximum spacing between shear assemblies is given in the National Annex:*

<table>
<tr><td rowspan="2">Shear force utilization</td><td colspan="2">Concrete strength class</td></tr>
<tr><td>≤ C50/60</td><td>> C50/60</td></tr>
<tr><td>$V_{Ed} \leq 0.3 \cdot V_{Rd,max}$</td><td>**0.7h or 300 mm** $^{(note)}$</td><td>**0.7h or 200 mm**</td></tr>
<tr><td>$0.3 \cdot V_{Rd,max} < V_{Ed} \leq 0.6 \cdot V_{Rd,max}$</td><td>**0.5h or 300 mm**</td><td>**0.5h or 200 mm**</td></tr>
<tr><td>$V_{Ed} > 0.6 \cdot V_{Rd,max}$</td><td colspan="2">**0.25h or 200 mm**</td></tr>
<tr><td colspan="3">Note: when $h < 200$ mm and $V_{Ed} \leq V_{Rd,c}$: $s_{l,max} = 150$ mm</td></tr>
</table>

</td></tr>
<tr><td>9.2.2 (8)</td><td>

*When choosing the "**German DIN-EN NA method**" the value of maximum transverse spacing of the legs in series is given in the National Annex:*

<table>
<tr><td rowspan="2">Shear force utilization</td><td colspan="2">Concrete strength class</td></tr>
<tr><td>≤ C50/60</td><td>> C50/60</td></tr>
<tr><td>$V_{Ed} \leq 0.3 \cdot V_{Rd,max}$</td><td>**h or 800 mm**</td><td>**h or 600 mm**</td></tr>
<tr><td>$0.3 \cdot V_{Rd,max} < V_{Ed} \leq V_{Rd,max}$</td><td>**h or 600 mm**</td><td>**h or 400 mm**</td></tr>
</table>

</td></tr>
<tr><td>9.3.1.1(3)</td><td>

*When choosing the "**German DIN-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:*

For principal reinforcement:

For h ≥ 250 mm: $s_{max,slab} = 250$ mm

For h < 150 mm: $s_{max,slab} = 150$ mm

Intermediate values are linearly interpolated

For secondary reinforcement: $s_{max,slab} = 250$ mm

</td></tr>
<tr><td>9.5.2 (1)</td><td>

*When choosing the "**German DIN-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:*

$\phi_{min} = 12$ mm

</td></tr>
<tr><td>9.5.2 (2)</td><td>

*When choosing the "**German DIN-EN NA method**" the formula for calculation minimum area of longitudinal reinforcement in column is given in the National Annex:*

</td></tr>
</table>

	$A_{s,min} = max(0.15 \cdot \lvert N_{Ed}\rvert / f_{yd} ; 0.0 \cdot A_c)$
9.5.2 (3)	*When choosing the “**German DIN-EN NA method**” the formula for calculation maximum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,max} = 0.09 \cdot A_c$
9.5.3 (3)	*When choosing the “**German DIN-EN NA method**” the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = min(12 \cdot \phi_l; b_{min}; 300 mm)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column*
9.6.2 (1)	*When choosing the “**German DIN-EN NA method**” the formula for calculation minimum and maximum area of vertical reinforcement in wall is given in the National Annex:* *Generally:* $A_{s,vmin} = 0.15 \cdot \lvert N_{Ed}\rvert / f_{yd} \geq 0.0015 \cdot A_c$ *For thin walls with* $\lambda \geq \lambda_{lim}$ *or with* $\lvert N_{Ed}\rvert \geq 0.3 \cdot f_{cd} \cdot A_c$: $A_{s,vmin} = 0.003 \cdot A_c$ $A_{s,vmax} = 0.04 \cdot A_c$
9.6.3 (1)	*When choosing the “**German DIN-EN NA method**” the formula for calculation minimum area of horizontal reinforcement in wall is given in the National Annex:* *Generally:* $A_{s,hmin} = 0.2 \cdot A_{s,v}$ *For thin walls with* $\lambda \geq \lambda_{lim}$ *or with* $\lvert N_{Ed}\rvert \geq 0.3 \cdot f_{cd} \cdot A_c$: $A_{s, hmin} = 0.5 \cdot A_{s,v}$
9.7 (1)	*When choosing the “**German DIN-EN NA method**” the formula for calculation minimum are of reinforcement in deep beams in each face and each direction is given in the National Annex:* $A_{s,dbmin} = 0.00075 \cdot A_c \geq 150 mm^2/m$
12.3.1 (1)	*When choosing the “**German DIN-EN NA method**” the coefficients taking account of long term effects on the compressive and tensile strength and of unfavourable effects resulting from the way the load is applied for plain concrete are given in the National Annex:* $\alpha_{cc,pl} = 0.70$ $\alpha_{ct,pl} = 0.70$
12.6.3 (2)	*When choosing the “**German DIN-EN NA method**” the coefficient for calculation of shear stress in plain concrete is given in the National Annex:*

	$k = S \cdot A_{cc} / (b_w \cdot l)$

Greece

According to Greek National annex draft ELOT EN 1492-1-1:2009

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*When choosing the "**Greek ELOT-EN NA method**" the value of maximal concrete strength class is given in the National Annex:* C_{max} = ***C50/60***
3.1.6 (1)P	*When choosing the "**Greek ELOT-EN NA method**" the value of coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* $\alpha_{cc} = 0.85$
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*When choosing the "**Greek ELOT-EN NA method**" the upper limit of yield strength of reinforcement is given in the National Annex:* f_{yk} = ***500 MPa***
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*Using the default EN*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*

4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*Using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*

6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
7.3.4 (3)	*Using the default EN*
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*Using the default EN*
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*

12.6.3 (2)	*Using the default EN*

Ireland

According to Irish National annex I.S. EN 1992-1-1/NA:2010-01

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*When choosing the "**Irish I.S. EN NA method**" the value partial factor for prestress action - favourable is given in the National Annex:* $\gamma_{P,fav} = 0.9$
2.4.2.2 (2)	*When choosing the "**Irish I.S. EN NA method**" the value partial factor for prestress action - unfavourable is given in the National Annex:* $\gamma_{P,fav} = 1.1$
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*Using the default EN*
3.1.6 (1)P	*When choosing the "**Irish I.S. EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* $\alpha_{cc} = 0.85$ *for compression in flexure and axial loading* $\alpha_{cc} = 1.0$ *for other phenomena*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*When choosing the "**Irish I.S. EN NA method**" the upper limit of yield strength of reinforcement is given in the National Annex:* $f_{yk} = 500$ **MPa**
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*

<table>
<tr><td>4.4.1.2 (5)</td><td><i>When choosing the “Irish I.S. EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:</i>

<i>Tables NA.6 and NA.7 are used</i>
<table>
<tr><th colspan="12">Nominal cover $c_{min,dur}$ [mm]</th></tr>
<tr><th rowspan="2"><i>Criterion</i></th><th colspan="11"><i>Exposure class according to Table 4.1</i></th></tr>
<tr><th><i>X0</i></th><th><i>XC1</i></th><th><i>XC2</i></th><th><i>XC3</i></th><th><i>XC4</i></th><th><i>XS1</i></th><th><i>XS2</i></th><th><i>XS3</i></th><th><i>XD1</i></th><th><i>XD2</i></th><th><i>XD3</i></th></tr>
<tr><td><i>Design life 50 years</i></td><td><i>10</i></td><td><i>15</i></td><td><i>25</i></td><td><i>25</i></td><td><i>30</i></td><td><i>35</i></td><td><i>40</i></td><td><i>45</i></td><td><i>35</i></td><td><i>40</i></td><td><i>45</i></td></tr>
<tr><td><i>Design Life 100 years</i></td><td><i>10</i></td><td><i>25</i></td><td><i>35</i></td><td><i>35</i></td><td><i>40</i></td><td><i>45</i></td><td><i>50</i></td><td><i>55</i></td><td><i>45</i></td><td><i>50</i></td><td><i>50</i></td></tr>
</table></td></tr>
<tr><td>4.4.1.2 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (7)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (8)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (13)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (4)</td><td><i>When choosing the “Irish I.S. EN NA method” the values of minimum cover for concrete cast against prepared ground and concrete cast directly against soil are given in the National Annex:</i>

$k_1 = 50$ mm
$k_2 = 75$ mm</td></tr>
<tr><td>5.2 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (4)</td><td><i>When choosing the “Irish I.S. EN NA method” the values of coefficients to calculated the distributed moment when f_{ck} does not exceed 50 MPa are given in the National Annex:</i>

<i>For reinforcement steel with $f_{yk} \leq 500$ MPa:</i>
$k_1 = k_3 = 0.4$
$k_2 = 0.6 + 0.0014 / \varepsilon_{cu2}$
$k_5 = 0.7$
$k_6 = 0.8$

<i>For reinforcement steel with $f_{yk} > 500$ MPa:</i>
<i>This reinforcement is not allowed; therefore</i>
$k_1 = k_2 = k_3 = k_4 = k_5 = k_6 = 0$</td></tr>
</table>

5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*When choosing the "**Irish I.S. EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension and post-tension* $r_{sup} = r_{inf} = 1.0$
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Irish I.S. EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* *In standard concrete:* $\theta_{min} = 21.80\ °\ (cotg = 2.5)$ *In elements in which shear co-exists with externally applied tension* $\theta_{min} = 38.67\ °\ (cotg = 1.25)$ *In standard concrete:* $\theta_{max} = 45.0\ °\ (cotg = 1)$ *In elements in which shear co-exists with externally applied tension* $\theta_{max} = 38.67\ °\ (cotg = 1.25)$
6.2.3 (3)	*When choosing the "**Irish I.S. EN NA method**" the values for calculation of shear resistance of members with vertical shear reinforcement are given in the National Annex:* $v_1 = v$ *If* $\sigma_{swd} < 0.8 \cdot f_{ywk}$ $v_1 = 0.54 \cdot (1 - 0.5 \cdot \cos(\alpha_s))$ *for* $f_{ck} \leq 60$ *MPa* $v_1 = \max((0.84 - (f_{ck} / 200)) \cdot (1 - 0.5 \cdot \cos(\alpha_s)); 0.5)$ *for* $f_{ck} > 60$ *MPa* *The coefficient taking account of the state of the stress in the compression chord* α_{cw} *is using the default EN*
6.2.4 (4)	*Using the default EN*

<table>
<tr><td></td><td></td></tr>
<tr><td>6.2.4 (6)</td><td>*Using the default EN*</td></tr>
<tr><td>6.4.3 (6)</td><td>*Using the default EN*</td></tr>
<tr><td>6.4.4 (1)</td><td>*Using the default EN*</td></tr>
<tr><td>6.4.5 (3)</td><td>*Using the default EN*</td></tr>
<tr><td>6.5.2 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>6.5.4 (4)</td><td>*Using the default EN*</td></tr>
<tr><td>7.2 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>7.2 (3)</td><td>*Using the default EN*</td></tr>
<tr><td>7.2 (5)</td><td>*Using the default EN*</td></tr>
<tr><td>7.3.1 (5)</td><td>*When choosing the “**Irish I.S. EN NA method**” the values of maximal calculated crack width are given in the National Annex:*
<table>
<tr><td>*Exposure class*</td><td>Reinforced members and prestressed members with unbonded tendons</td><td>Prestressed members with bonded tendons</td></tr>
<tr><td></td><td>Quasi-permanent load combination</td><td>Frequent load combination</td></tr>
<tr><td>*X0, XC1*</td><td>***0.3***</td><td>***0.2***</td></tr>
<tr><td>XC2, XC3, XC4</td><td>***0.3***</td><td>***0.2***</td></tr>
<tr><td>XD1, XD2, XS1, XS2, XS3</td><td>***0.3***</td><td>***0.2 (decompression)***</td></tr>
</table>
</td></tr>
<tr><td>7.3.4 (3)</td><td>*Using the default EN*</td></tr>
<tr><td>8.2 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>8.3 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.1.1 (1)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.1.1 (3)</td><td>*Using the default EN*</td></tr>
<tr><td>9.2.1.2 (1)</td><td>*When choosing the “**Irish I.S. EN NA method**” the value of coefficient for minimum ratio of span bending moment to be assumed at support in monolithic construction is given in the National Annex:*
$\boldsymbol{\beta_1 = 0.25}$</td></tr>
</table>

9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*When choosing the "**Irish I.S. EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\phi_{min} = 12$ mm
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*When choosing the "**Irish I.S. EN NA method**" the formula for calculation minimum are of reinforcement in deep beams in each face and each direction is given in the National Annex:* $A_{s,dbmin} = 0.002 \cdot A_c$
12.3.1 (1)	*When choosing the "**Irish I.S. EN NA method**" the coefficients taking account of long term effects on the compressive and tensile strength and of unfavourable effects resulting from the way the load is applied for plain concrete are given in the National Annex:* $\alpha_{cc,pl} = 0.60$ $\alpha_{ct,pl} = 0.80$
12.6.3 (2)	*Using the default EN*

Italy

No National Annex currently available, using default EN.

Luxembourg

According to Luxembourgian National annex EN 1992-1-1:2004/AN-LU:2011-09

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*Using the default EN*
3.1.6 (1)P	*When choosing the “***Luxembourgian LU-EN NA method***” the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* α_{cc} **= 0.85** *for compression in flexure and axial loading* α_{cc} **= 1.0** *for other phenomena*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*When choosing the “***Luxembourgian LU-EN NA method***” the values of minimum cover for pre-tensioned tendons are given in the National Annex:* *for strand or plain wire:* ***2 x*** *diameter* *for indented wire:* ***3 x*** *diameter*
4.4.1.2 (5)	*Using the default EN*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*

4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*Using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*

7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
7.3.4 (3)	*Using the default EN*
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*When choosing the "**Luxembourgian LU-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:* *for principal reinforcement:* $s_{max,slab} = 2.5 \cdot h \leq 400$ mm *for secondary reinforcement:* $s_{max,slab} = 3.0 \cdot h \leq 450$ mm *Concentrated areas are not recognised*
9.5.2 (1)	*When choosing the "**Luxembourgian LU-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* *For prefabricated columns:* $\phi_{min} = 8$ mm *For cast in place columns:* $\phi_{min} = 12$ mm
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*When choosing the "**Luxembourgian LU-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = \min(15 \cdot \phi_l; b_{min}; 300\ mm)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars*

	b_{min} is the lesser dimension of the column
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Malaysia

According to Malaysian National annex MS EN 1992-1-1:2010

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*When choosing the "**Malaysian MS-EN NA method**" the value partial factor for prestress action - favourable is given in the National Annex:* $\gamma_{P,fav}$ **= 0.9**
2.4.2.2 (2)	*When choosing the "**Malaysian MS-EN NA method**" the value partial factor for prestress action - unfavourable is given in the National Annex:* $\gamma_{P,fav}$ **= 1.1**
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*When choosing the "**Malaysian MS-EN NA method**" the value of maximal concrete strength class is given in the National Annex:* *For shear strength:* C_{max} **= C50/60** *For other cases:* C_{max} **= C90/105**
3.1.6 (1)P	*When choosing the "**Malaysian MS-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* α_{cc} **= 0.85** *for compression in flexure and axial loading* α_{cc} **= 1.0** *for other phenomena*
3.1.6 (2)P	*Using the default EN*

3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*When choosing the "**Malaysian MS-EN NA method**" the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:* *Use BS 8500-1:2006, tables A.4 and A.5*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*When choosing the "**Malaysian MS-EN NA method**" the values of minimum cover for concrete cast against prepared ground and concrete cast directly against soil are given in the National Annex:* ***k_1 = 40 mm*** ***k_2 = 65 mm***
5.2 (5)	*Using the default EN*
5.5 (4)	*When choosing the "**Malaysian MS-EN NA method**" the values of coefficients to calculated the distributed moment when f_{ck} does not exceed 50 MPa are given in the National Annex:* *For reinforcement steel with $f_{yk} \leq 500$ MPa:* ***$k_1 = k_3 = 0.4$*** ***$k_2 = k_4 = 0.6 + 0.0014 / \varepsilon_{cu2}$*** ***$k_5 = 0.7$*** ***$k_6 = 0.8$*** *For reinforcement steel with $f_{yk} > 500$ MPa:*

	This reinforcement is not allowed; therefore $k_1 = k_2 = k_3 = k_4 = k_5 = k_6 = 0$
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*When choosing the "**Malaysian MS-EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension and post-tension* $r_{sup} = r_{inf} = 1.0$
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Malaysian MS-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* *In standard concrete:* $\theta_{min} = 21.80°$ **(cotg = 2.5)** *In elements in which shear co-exists with externally applied tension* $\theta_{min} = 45°$ **(cotg = 1.0)** *The values of maximum angle is using the default EN*
6.2.3 (3)	*When choosing the "**Malaysian MS-EN NA method**" the values for calculation of shear resistance of members with vertical shear reinforcement are given in the National Annex:* $v_1 = v$ *If* $\sigma_{swd} < 0.8 \cdot f_{ywk}$ $v_1 = 0.54 \cdot (1 - 0.5 \cdot \cos(\alpha_s))$ *for* $f_{ck} \leq 60$ *MPa* $v_1 = \max((0.84 - (f_{ck} / 200)) \cdot (1 - 0.5 \cdot \cos(\alpha_s)); 0.5)$ *for* $f_{ck} > 60$ *MPa* *The coefficient taking account of the state of the stress in the compression chord* α_{cw} *is using the default EN*

6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*When choosing the "**Malaysian MS-EN NA method**" the values of maximal calculated crack width are given in the National Annex:*

Exposure class	Reinforced members and prestressed members with unbonded tendons	Prestressed members with bonded tendons
	Quasi-permanent load combination	Frequent load combination
X0, XC1	***0.3***	***0.2***
XC2, XC3, XC4	***0.3***	***0.2***
XD1, XD2, XS1, XS2, XS3	***0.3***	***0.2 (decompression)***

7.3.4 (3)	*Using the default EN*
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*When choosing the "**Malaysian MS-EN NA method**" the value of coefficient for minimum ratio of span bending moment to be assumed at support in monolithic construction is given in the National Annex:*

	$\beta_1 = 0.25$
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*When choosing the “**Malaysian MS-EN NA method**” the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* **$\phi_{min} = 12$ mm**
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Norway

According to Norwegian National annex NS EN 1992-1-1:2004/NA:2010

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*When choosing the “**Norwegian NS-EN NA method**” the value partial factor for prestress action - favourable is given in the National Annex:* **$\gamma_{P,fav} = 0.9$**
2.4.2.2 (2)	*When choosing the “**Norwegian NS-EN NA method**” the value partial factor for prestress action - unfavourable is given in the National Annex:*

	$\gamma_{P,fav}$ = 1.3
2.4.2.4 (1)	*Using the default EN* *Fatigue is not implemented in Scia Engineer*
3.1.2 (2)P	*When choosing the "**Norwegian NS-EN NA method**" the value of maximal concrete strength class is given in the National Annex:* *For shear strength: **C_{max} = B65 (C60/75)*** *For other cases: **C_{max} = B95 (C95/110)***
3.1.6 (1)P	*When choosing the "**Norwegian NS-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* ***α_{cc} = 0.85***
3.1.6 (2)P	*When choosing the "**Norwegian NS-EN NA method**" the value of coefficient taking account of long term effects on the tensile strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* ***α_{ct} = 0.85***
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*When choosing the "**Norwegian NS-EN NA method**" the value of characteristic strain limit is given in the National Annex:* ***ε_{ud} / ε_{uk} = 0.4*** *V PRQ dokumentu k NA je něco o fyd – to nemáme v ese impelmentováno?*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*When choosing the "**Norwegian NS-EN NA method**" the value of characteristic strain limit is given in the National Annex:* ***ε_{ud} / ε_{uk} = 0.4*** *V PRQ dokumentu k NA je něco o fyd – to nemáme v ese impelmentováno?*
4.4.1.2 (3)	*When choosing the "**Norwegian NS-EN NA method**" the values of minimum cover for pre-tensioned tendons may be modified by the National Annex:* *if d_g > 32 mm, than **$c_{min,b}$ + 5 mm***

<table>
<tr><td>4.4.1.2 (5)</td><td><i>When choosing the “Norwegian NS-EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:</i>

<i>Table NA.4.4N and NA.4.5N are used:</i>
<table>
<tr><th colspan="7"><i>Value of minimum cover $c_{min,dur}$ according to exposure classes [mm]</i></th></tr>
<tr><th><i>Criterion</i></th><th colspan="6"><i>Exposure class according to Table 4.1</i></th></tr>
<tr><th></th><th><i>X0</i></th><th><i>XC1</i></th><th><i>XC2
XC3
XC4</i></th><th><i>XD1
XS1</i></th><th><i>XD2
XD3
XS2</i></th><th><i>XS3</i></th></tr>
<tr><td><i>Reinforcing steel
Design working life 50 years</i></td><td>$c_{min,b}$</td><td>15</td><td>25</td><td>40</td><td>40</td><td>50</td></tr>
<tr><td><i>Reinforcing steel
Design working life 100 years</i></td><td>$c_{min,b}$</td><td>25</td><td>35</td><td>50</td><td>50</td><td>60</td></tr>
<tr><td><i>Prestressing steel
Design working life 50 years</i></td><td>$c_{min,b}$</td><td>25</td><td>35</td><td>50</td><td>50</td><td>60</td></tr>
<tr><td><i>Prestressing steel
Design working life 100 years</i></td><td>$c_{min,b}$</td><td>35</td><td>45</td><td>60</td><td>60</td><td>70</td></tr>
</table></td></tr>
<tr><td>4.4.1.2 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (7)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (8)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (13)</td><td><i>When choosing the “Norwegian NS-EN NA method” the values coefficients for increasing concrete cover for abrasion classes are given in the National Annex:</i>

$k_1 = k_2 = k_3 = 0$ mm</td></tr>
<tr><td>4.4.1.3 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.3 (3)</td><td><i>When choosing the “Norwegian NS-EN NA method” the values of accepted deviations for increasing of nominal concrete cover are given in the National Annex:</i>

<i>with special geometric control:</i> $\Delta c_{dev} = 5$ mm
<i>without special geometric control:</i> $\Delta c_{dev} = 10$ mm</td></tr>
<tr><td>4.4.1.3 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.2 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.8.3.1 (1)</td><td><i>When choosing the “Norwegian NS-EN NA method” the slenderness criterion where second order effects may be ignored is given in the National Annex:</i></td></tr>
</table>

	$\lambda_n \leq \lambda_{n,lim}$ *where:* for compression members where the ends are braced and that do not have transverse load: $\lambda_{n,lim} = 13 \cdot (2- r_m) \cdot A_\varphi$ for compression members where one end is unbraced and for compression members that have transverse load: $\lambda_{n,lim} = 13 \cdot A_\varphi$ *where:* $r_m = M_{01} / M_{02}$ *– ratio between numerically least and greatest first order end moments* *if* $M_{02} < N_d \cdot h / 20$, $r_m = 1$ r_m *is positive when both end moments give tension on same side* $A_\varphi = 1.25 / (1 + 0.2 \cdot \varphi_{ef}) \leq 1$ $\lambda_n = \lambda \cdot (n / (1 + 2 \cdot k_a \cdot \omega))^{1/2}$ *… normalised slenderness* *where:* $\lambda = l_0 / I$ *… see clause 5.8.3.2* $k_a = (i_s / i)^2$ i_s *… radius of gyration of the reinforcement* i *… radius of gyration of uncracked concrete section* $n = N_{Ed} / f_{cd} \cdot A_c$ *… relative axial force* $\omega = f_{yd} \cdot A_s / f_{cd} \cdot A_c$ *… mechanical reinforcement ratio*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*When choosing the “**Norwegian NS-EN NA method**” the values for calculation of shear resistance of members not requiring design shear reinforcement are given in the National Annex:* *for* $d_g < 16$ *mm:* $c_{Rd,c} = 0.15 / \gamma_C$ *for* $d_g \geq 16$ *mm:* $c_{Rd,c} = 0.18 / \gamma_C$ *for compression:* $k_1 = 0.15$ *for tension:* $k_1 = 0.30$ $v_{min} = 0.0035 \cdot k^{3/2} \cdot f_{ck}^{1/2}$

6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Norwegian NS-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* *In standard concrete:* $\boldsymbol{\theta_{min} = 21.80\,°\ (cotg = 2.5)}$ *In sections with significant axial tension* ($\sigma_{ct} \geq f_{ctk,0,05}$) $\boldsymbol{\theta_{min} = 38.66\,°\ (cotg = 1.25)}$ *The values of maximum angle are using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*When choosing the "**Norwegian NS-EN NA method**" the values for calculation to prevent crushing of the compression struts in the flange are given in the National Annex:* $\boldsymbol{\theta_{min,c} = 21.80\,°\ (cotg = 2.5)}$ *The values of minimum angle in tension and maximum angles are using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*When choosing the "**Norwegian NS-EN NA method**" the values for calculation punching shear resistance of slabs and column bases without shear resistance are given in the National Annex:* *for* $d_g < 16$ *mm:* $\boldsymbol{c_{Rd,c} = 0.15 / \gamma_C}$ *for* $d_g \geq 16$ *mm:* $\boldsymbol{c_{Rd,c} = 0.18 / \gamma_C}$ *for compression:* $\boldsymbol{k_1 = 0.10}$ *for tension:* $\boldsymbol{k_1 = 0.30}$ $\boldsymbol{v_{min} = 0.0035 \cdot k^{3/2} \cdot f_{ck}^{1/2}}$
6.4.5 (3)	*When choosing the "**Norwegian NS-EN NA method**" the limitation for maximum shear resistance is given in the National Annex:* $\boldsymbol{v_{Rd,max} = 0.4 \cdot v \cdot f_{cd} \leq 1.6 \cdot v_{Rd,c} \cdot u_1 / (\beta \cdot u_0)}$ *where* $v_{Rd,c}$ *is without contribution of axial stress (i.e.* $k_1\sigma_{cp} = 0$*)*
6.5.2 (2)	*Using the default EN*

<table>
<tr><td></td><td></td></tr>
<tr><td>6.5.4 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.3.1 (5)</td><td><i>When choosing the “Norwegian NS-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>

<i>Table NA.7.1N is used</i>
<table>
<tr><th rowspan="2"><i>Exposure Class</i></th><th colspan="2"><i>Reinforced members and prestressed members with unbonded tendons</i></th><th colspan="2"><i>Prestressed members with bonded tendons</i></th></tr>
<tr><th><i>Load combination</i></th><th><i>Limiting value</i> w_{max}</th><th><i>Load combination</i></th><th><i>Limiting value</i> w_{max}</th></tr>
<tr><td><i>X0</i></td><td>Quasi-permanent</td><td><i>0.40</i></td><td>Frequent</td><td>$0.30 \cdot k_c$</td></tr>
<tr><td><i>XC1, XC2, XC3, XC4</i></td><td>Quasi-permanent</td><td>$0.30 \cdot k_c$</td><td>Frequent</td><td>$0.20 \cdot k_c$</td></tr>
<tr><td rowspan="2"><i>XD1, XD2, XS1, XS2</i></td><td rowspan="2">Quasi-permanent</td><td rowspan="2">$0.30 \cdot k_c$</td><td>Frequent</td><td>$0.20 \cdot k_c$</td></tr>
<tr><td>Quasi-permanent</td><td><i>Decompression</i></td></tr>
<tr><td><i>XD3, XS3</i></td><td>Frequent</td><td>$0.30 \cdot k_c$</td><td>Frequent</td><td><i>Decompression</i></td></tr>
<tr><td><i>XSA</i></td><td>Frequent</td><td>$0.30 \cdot k_c$</td><td>Frequent</td><td><i>Decompression</i></td></tr>
</table>

<i>where:</i>
$k_c = c_{nom} / c_{min,dur} \le 1.3$</td></tr>
<tr><td>7.3.4 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>8.2 (2)</td><td><i>When choosing the “Norwegian NS-EN NA method” the value of coefficient for calculation minimum clear bar distance and value of minimal clear bar distance are given in the National Annex:</i>

<i>For bars in same layer:</i> $k_1 = 2.0$
<i>For bars in different layer:</i> $k_1 = 1.5$
$k_2 = 5$ <i>mm</i></td></tr>
<tr><td>8.3 (2)</td><td><i>When choosing the “Norwegian NS-EN NA method” the values of minimum mandrel diameter of bars and wires for bends, hooks and loops are given in the National Annex:</i>
<table>
<tr><th><i>Bar diameter</i></th><th><i>Minimum mandrel</i></th></tr>
<tr><td>$\phi \le 16$ <i>mm</i></td><td>4ϕ</td></tr>
<tr><td>16 <i>mm</i> $< \phi \le 32$ <i>mm</i></td><td>7ϕ</td></tr>
<tr><td>$\phi > 32$ <i>mm</i></td><td>10ϕ</td></tr>
</table>
<i>Other values from table NA.8.1 are not implemented</i></td></tr>
</table>

9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*When choosing the "**Norwegian NS-EN NA method**" the formula for calculation minimum ratio of shear reinforcement is given in the National Annex:* $\rho_{w,min} = (0.1 \cdot \sqrt{f_{ck}}) / f_{yk}$
9.2.2 (6)	*When choosing the "**Norwegian NS-EN NA method**" the formula for calculation maximum spacing between shear assemblies is given in the National Annex:* $s_{l,max} = 0.60 \cdot h' \cdot (1 + \cot \alpha)$ *where:* *h' is the distance of the centre of gravity of the tension and the compression reinforcement*
9.2.2 (8)	*When choosing the "**Norwegian NS-EN NA method**" the formula for calculation maximum transverse spacing of the legs in series is given in the National Annex:* $s_{t,max} = h' \leq 600$ mm *where:* *h' is the distance of the centre of gravity of the tension and the compression reinforcement*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*When choosing the "**Norwegian NS-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\phi_{min} = 10$ mm
9.5.2 (2)	*When choosing the "**Norwegian NS-EN NA method**" the formula for calculation minimum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,min} = 0.2 \cdot A_c \cdot f_{cd} / f_{yd} \leq 0.5 \cdot N_{Ed} / f_{yd} \leq 0.01 \cdot A_c$
9.5.2 (3)	*When choosing the "**Norwegian NS-EN NA method**" the formula for calculation maximum area of longitudinal reinforcement in column is given in the National Annex:*

	$A_{s,max} = 0.08 \cdot A_c$
9.5.3 (3)	*When choosing the "**Norwegian NS-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = \min(15 \cdot \phi_l; b_{min}; 400\ mm)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column* *if* $A_{sl} > 0.04 \cdot A_c$ *or concrete strength class is B55 or greater:* $s_{cl,tmax}$ *is multiplied by factor* ***0.6***
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*When choosing the "**Norwegian NS-EN NA method**" the formula for calculation minimum area of horizontal reinforcement in wall is given in the National Annex:* *for exterior walls:* $A_{s,hmin} = \max(0.25 \cdot A_{s,v}; 0.30 \cdot A_c \cdot f_{ctm} / f_{yk})$ *for interior walls:* $A_{s,hmin} = \max(0.25 \cdot A_{s,v}; 0.15 \cdot A_c \cdot f_{ctm} / f_{yk})$
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Poland

According to Polish National annex PN EN 1992-1-1/NA:2008

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*When choosing the "**Polish PN-EN NA method**" the values of partial factors for materials for ultimate limit states are given in the National Annex:*

	Design situations | *γ_C for concrete* | *γ_S for reinforcing steel* | *γ_S for prestressing steel* *Persistent & Transient* | ***1.4*** | ***1.15*** | ***1.15*** *Accidental* | ***1.2*** | ***1.0*** | ***1.0***
3.1.2 (2)P	*Using the default EN*
3.1.6 (1)P	*Using the default EN*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*Using the default EN*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*

5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Polish PN-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* θ_{min} ***= 26.56 ° (cotg = 2.0)*** *The values of maximum angle are using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*When choosing the "**Polish PN-EN NA method**" the coefficient for limit compressive stress is given in the National Annex:* k_1 ***= 1.0***
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*

7.3.4 (3)	*Using the default EN*
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*When choosing the "**Polish PN-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\phi_{min} = 6$ **mm**
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Romania

According to Romanian National annex SR EN 1992-1-1:2004/NB:2008

<table>
<tr><th>Article</th><th>Commentary</th></tr>
<tr><td>2.4.2.1 (1)</td><td>*Using the default EN*</td></tr>
<tr><td>2.4.2.2 (1)</td><td>*Using the default EN*</td></tr>
<tr><td>2.4.2.2 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>2.4.2.4 (1)</td><td>*When choosing the “**Romanian SR-EN NA method**” the values of partial factors for materials for ultimate limit states are given in the National Annex:*
<table>
<tr><td>*Design situations*</td><td>γ_C *for concrete*</td><td>γ_S *for reinforcing steel*</td><td>γ_S *for prestressing steel*</td></tr>
<tr><td>*Persistent & Transient*</td><td>***1.5***</td><td>***1.15***</td><td>***1.15***</td></tr>
<tr><td>*Accidental*</td><td>***1.5***</td><td>***1.15***</td><td>***1.0***</td></tr>
</table>
Partial factors for fatigue are not supported in Scia Engineer</td></tr>
<tr><td>3.1.2 (2)P</td><td>*Using the default EN*</td></tr>
<tr><td>3.1.6 (1)P</td><td>*Using the default EN*</td></tr>
<tr><td>3.1.6 (2)P</td><td>*Using the default EN*</td></tr>
<tr><td>3.2.2 (3)P</td><td>*When choosing the “**Romanian SR-EN NA method**” the upper limit of yield strength of reinforcement is given in the National Annex:*
f_{yk} = 500 MPa</td></tr>
<tr><td>3.2.7 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>3.3.4 (5)</td><td>*Using the default EN*</td></tr>
<tr><td>3.3.6 (7)</td><td>*Using the default EN*</td></tr>
<tr><td>4.4.1.2 (3)</td><td>*Using the default EN*</td></tr>
<tr><td>4.4.1.2 (5)</td><td>*Using the default EN*</td></tr>
<tr><td>4.4.1.2 (6)</td><td>*Using the default EN*</td></tr>
<tr><td>4.4.1.2 (7)</td><td>*Using the default EN*</td></tr>
<tr><td>4.4.1.2 (8)</td><td>*Using the default EN*</td></tr>
</table>

4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*Using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*

7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
7.3.4 (3)	*Using the default EN*
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*When choosing the "**Romanian SR-EN NA method**" the formula for calculation maximum transverse spacing of the legs in series is given in the National Annex:* $s_{t,max} = 0.75 \cdot d \leq 350$ mm
9.3.1.1(3)	*When choosing the "**Romanian SR-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:* *for principal reinforcement:* $s_{max,slab} = 2.0 \cdot h \leq 250$ mm *for secondary reinforcement:* $s_{max,slab} = 3.0 \cdot h \leq 350$ mm
9.5.2 (1)	*When choosing the "**Romanian SR-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\phi_{min} = 12$ mm
9.5.2 (2)	*When choosing the "**Romanian SR-EN NA method**" the formula for calculation minimum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,min} = 0.10 \cdot N_{Ed} / f_{yd} \geq 0.004 \cdot A_c$

9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*When choosing the "**Romanian SR-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = \min(15 \cdot \phi_l; b_{min}; 300\ mm)$ *where: ϕ_l is minimum diameter of the longitudinal bars* *b_{min} is the lesser dimension of the column*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*When choosing the "**Romanian SR-EN NA method**" the formula for calculation minimum area of horizontal reinforcement in wall is given in the National Annex:* $A_{s,hmin} = \max(0.25 \cdot A_{s,v}; 0.001 \cdot A_c)$
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Singapore

According to Singaporean National annex SS EN 1992-1-1:2008+A1:2010

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*When choosing the "**Singaporean SS-EN NA method**" the value partial factor for prestress action - favourable is given in the National Annex:* $\gamma_{P,fav} = 0.9$
2.4.2.2 (2)	*When choosing the "**Singaporean SS-EN NA method**" the value partial factor for prestress action - unfavourable is given in the National Annex:* $\gamma_{P,fav} = 1.1$
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*When choosing the "**Singaporean SS-EN NA method**" the value of maximal concrete strength class is given in the National Annex:* *For shear strength:* $C_{max} = C50/60$

	For other cases: ***C_{max} = C90/105***
3.1.6 (1)P	*When choosing the "**Singaporean SS-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* ***α_{cc} = 0.85*** *for compression in flexure and axial loading* ***α_{cc} = 1.0*** *for other phenomena*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*When choosing the "**Singaporean SS-EN NA method**" the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:* *Use SS 544-1:2009, tables A.4 and A.5*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*When choosing the "**Singaporean SS-EN NA method**" the values of coefficients to calculated the distributed moment when f_{ck} does not exceed 50 MPa are given in the National Annex:*

	For reinforcement steel with $f_{yk} \leq 500$ MPa: ***$k_1 = k_3 = 0.4$*** ***$k_2 = k_4 = 0.6 + 0.0014 / \varepsilon_{cu2}$*** ***$k_5 = 0.7$*** ***$k_6 = 0.8$*** *For reinforcement steel with $f_{yk} > 500$ MPa:* *This reinforcement is not allowed; therefore* ***$k_1 = k_2 = k_3 = k_4 = k_5 = k_6 = 0$***
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*When choosing the "**Singaporean SS-EN NA method**" the values of factors to consider the possible upper and lower variation in the prestress in pre-tension or unbonded tendons are given in the National Annex:* *The values for pre-tension and post-tension* ***$r_{sup} = r_{inf} = 1.0$***
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Singaporean SS-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* *In standard concrete:* ***$\theta_{min} = 21.80$ ° (cotg = 2.5)*** *In elements in which shear co-exists with externally applied tension* ***$\theta_{min} = 45$ ° (cotg = 1.0)*** *The values of maximum angle are using the default EN*
6.2.3 (3)	*When choosing the "**Singaporean SS-EN NA method**" the values for calculation of shear resistance of members with vertical shear reinforcement are given in the National Annex:* ***$v_1 = v$***

<table>
<tr><td></td><td><i>If $\sigma_{swd} < 0.8 \cdot f_{ywk}$</i>
$v_1 = 0.54 \cdot (1 - 0.5 \cdot \cos(\alpha_s))$ <i>for $f_{ck} \leq 60$ MPa</i>
$v_1 = \max((0.84 - (f_{ck} / 200)) \cdot (1 - 0.5 \cdot \cos(\alpha_s)); 0.5)$ <i>for $f_{ck} > 60$ MPa</i>

<i>The coefficient taking account of the state of the stress in the compression chord α_{cw} is using the default EN</i></td></tr>
<tr><td>6.2.4 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.2.4 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.4.3 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.4.4 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.4.5 (3)</td><td><i>When choosing the “Singaporean SS-EN NA method” the additional limitation for maximum shear resistance is given in the National Annex:</i>

$v_{Rd,max} = 0.5 \cdot v \cdot f_{cd} \leq 2.0 \cdot v_{Rd,c}$</td></tr>
<tr><td>6.5.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.5.4 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.3.1 (5)</td><td><i>When choosing the “Singaporean SS-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>

<table>
<tr><td><i>Exposure class</i></td><td>Reinforced members and prestressed members with unbonded tendons</td><td>Prestressed members with bonded tendons</td></tr>
<tr><td></td><td>Quasi-permanent load combination</td><td>Frequent load combination</td></tr>
<tr><td><i>X0, XC1</i></td><td><i>0.3</i></td><td><i>0.2</i></td></tr>
<tr><td>XC2, XC3, XC4</td><td><i>0.3</i></td><td><i>0.2</i></td></tr>
<tr><td>XD1, XD2, XS1, XS2, XS3</td><td><i>0.3</i></td><td><i>0.2 (decompression)</i></td></tr>
</table>
</td></tr>
<tr><td>7.3.4 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>8.2 (2)</td><td><i>Using the default EN</i></td></tr>
</table>

8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*When choosing the "**Singaporean SS-EN NA method**" the value of coefficient for minimum ratio of span bending moment to be assumed at support in monolithic construction is given in the National Annex:* $\beta_1 = 0.25$
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*When choosing the "**Singaporean SS-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\phi_{min} = 12$ mm
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*Using the default EN* *Special method for concrete class > C50/60 is not implemented*
9.6.2 (1)	*Using the default EN*
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*When choosing the "**Singaporean SS-EN NA method**" the coefficients taking account of long term effects on the compressive and tensile strength and of unfavourable effects resulting from the way the load is applied for plain concrete are given in the National Annex:* $\alpha_{cc,pl} = 0.60$ $\alpha_{ct,pl} = 0.80$

12.6.3 (2)	*Using the default EN*

Slovakia

According to Slovakian National annex STN EN 1992-1-1/NA:2008-08

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*Using the default EN*
3.1.6 (1)P	*Using the default EN*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*When choosing the “**Slovakian STN-EN NA method**” the method for determination of the minimal concrete cover* $c_{min,dur}$ *is given in the National Annex:* *Table 4.3N is used:*

Structural Class								
Criterion	***Exposure class according to Table 4.1***							
	X0	*XC1*	*XC2*	*XC3*	*XC4*	*XD1*	*XD2*	*XD3*
Design Working Life of 80 years	*increase class by 1*	*increase class by 1*	*increase class by 1*	*increase class by 1*	*increase class by 1*	*increase class by 1*	*increase class by 1*	*increase class by 1*
Design Working Life of 100 years	*increase class by 2*	*increase class by 2*	*increase class by 2*	*increase class by 2*	*increase class by 2*	*increase class by 2*	*increase class by 2*	*increase class by 2*
Strength Class	*≥ C20/25*	*≥ C25/30*	*≥ C30/37*	*≥ C35/45*	*≥ C40/50*	*≥ C40/50*	*≥ C40/50*	*≥ C45/55*

	reduce class by 1	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*
Members with slab geometry	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*
Special Quality Control	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*	*reduce class by 1*

Tables 4.4 and 4.5 are used from default EN

4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*
4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*When choosing the “**Slovakian STN-EN NA method**” the expression used in default EN remains unchanged, however the expression is limited:* $\lambda_{lim} \leq 75$
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*Using the default EN*

6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
NCI to 7.3.2(3)	*When choosing the “**Slovakian STN-EN NA method**” the conditions for calculation* $h_{c.ef}$ *are given in the National Annex:* *When* x_r *is greater or equal to 0.25 · h the depth of effective area of the concrete is calculated by followed formula.* $h_{c.ef} = \min(2.5 \cdot (h - d), (h - x_r) / 3, h/2)$ *When* x_r *is lower than 0.25 · h the depth of effective area of the concrete is calculated by next formula.* $h_{c.ef} = \min(2.5 \cdot (h - d), h/2)$
7.3.4 (3)	*Using the default EN*
8.2 (2)	*When choosing the “**Slovakian STN-EN NA method**” the value of coefficient for calculation minimum clear bar distance and value of minimal clear bar distance are given in the National Annex:* $k_1 = 1.5$ $k_2 = 5$ mm
8.3 (2)	*Using the default EN*

9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*When choosing the "**Slovakian STN-EN NA method**" the value of coefficient for minimum ratio of span bending moment to be assumed at support in monolithic construction is given in the National Annex:* $\boldsymbol{\beta_1 = 0.25}$
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*When choosing the "**Slovakian STN-EN NA method**" the expression used in default EN remains unchanged, however the expression is limited:* $\boldsymbol{s_{l,max} \leq 400\ mm}$
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*When choosing the "**Slovakian STN-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:* *for principal reinforcement:* $\boldsymbol{s_{max,slab} = 2.0 \cdot h \leq 300\ mm}$ *for secondary reinforcement:* $\boldsymbol{s_{max,slab} = 3.0 \cdot h \leq 400\ mm}$ *Concentrated areas are not recognised*
9.5.2 (1)	*When choosing the "**Slovakian STN-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\boldsymbol{\phi_{min} = 10\ mm}$
9.5.2 (2)	*Using the default EN*
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*When choosing the "**Slovakian STN-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $\boldsymbol{s_{cl,tmax} = \min(15 \cdot \phi_l;\ b_{min};\ 300\ mm)}$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column*
9.6.2 (1)	*Using the default EN*

9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Slovenia

According to Slovenian National annex SIST EN 1992-1-1/AC:2008

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*Using the default EN*
3.1.6 (1)P	*Using the default EN*
3.1.6 (2)P	*Using the default EN*
3.2.2 (3)P	*Using the default EN*
3.2.7 (2)	*Using the default EN*
3.3.4 (5)	*Using the default EN*
3.3.6 (7)	*Using the default EN*
4.4.1.2 (3)	*Using the default EN*
4.4.1.2 (5)	*Using the default EN*
4.4.1.2 (6)	*Using the default EN*
4.4.1.2 (7)	*Using the default EN*
4.4.1.2 (8)	*Using the default EN*

4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*Using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*Using the default EN*
6.4.5 (3)	*Using the default EN*
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*

7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*
7.2 (5)	*Using the default EN*
7.3.1 (5)	*Using the default EN*
7.3.4 (3)	*Using the default EN*
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*Using the default EN*
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*When choosing the "**Slovenian SIST-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:* $\phi_{min} = 12$ mm
9.5.2 (2)	*When choosing the "**Slovenian SIST-EN NA method**" the formula for calculation minimum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,min} = 0.10 \cdot N_{Ed} / f_{yd} \geq 0.003 \cdot A_c$
9.5.2 (3)	*Using the default EN*
9.5.3 (3)	*When choosing the "**Slovenian SIST-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = \min(12 \cdot \phi_l; b_{min}; 300 \text{ mm})$

	where: ϕ_l is minimum diameter of the longitudinal bars *b_{min} is the lesser dimension of the column*
9.6.2 (1)	*When choosing the "**Slovenian SIST-EN NA method**" the formula for calculation minimum and maximum area of vertical reinforcement in wall is given in the National Annex:* $\mathbf{A_{s,vmin} = 0.003 \cdot A_c}$ $\mathbf{A_{s,vmax} = 0.04 \cdot A_c}$
9.6.3 (1)	*Using the default EN*
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Spain

According to Spanish National annex UNE-EN 1992-1-1:2004/AN:2015-10

<table>
<tr><th>Article</th><th>Commentary</th></tr>
<tr><td>2.4.2.1 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>2.4.2.2 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>2.4.2.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>2.4.2.4 (1)</td><td><i>When choosing the "Spanish UNE-EN NA method" the values of partial factors for materials for ultimate limit states are given in the National Annex:</i>
<table>
<tr><td><i>Design situations</i></td><td><i>γ_C for concrete</i></td><td><i>γ_S for reinforcing steel</i></td><td><i>γ_S for prestressing steel</i></td></tr>
<tr><td><i>Persistent & Transient</i></td><td><i>1.5</i></td><td><i>1.15</i></td><td><i>1.1</i></td></tr>
<tr><td><i>Accidental</i></td><td><i>1.3</i></td><td><i>1.0</i></td><td><i>1.0</i></td></tr>
</table>
</td></tr>
<tr><td>3.1.2 (2)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.6 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.6 (2)P</td><td><i>Using the default EN</i></td></tr>
</table>

<table>
<tr><td>3.2.2 (3)P</td><td>*When choosing the “**Spanish UNE-EN NA method**” the upper limit of yield strength of reinforcement is given in the National Annex:*
f_{yk} = 500 MPa</td></tr>
<tr><td>3.2.7 (2)</td><td>*Using the default EN*</td></tr>
<tr><td>3.3.4 (5)</td><td>*Using the default EN*</td></tr>
<tr><td>3.3.6 (7)</td><td>*Using the default EN*</td></tr>
<tr><td>4.4.1.2 (3)</td><td>*When choosing the “**Spanish UNE-EN NA method**” the values of minimum cover for pre-tensioned tendons are given in the National Annex:*
*for strand or plain wire: **2 x** diameter*
*for indented wire: **3 x** diameter*</td></tr>
<tr><td>4.4.1.2 (5)</td><td>*When choosing the “**Spanish UNE-EN NA method**” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:*
Table AN/2 is used:
<table>
<tr><th colspan="6">*Structural Class*</th></tr>
<tr><th rowspan="2">*Criterion*</th><th colspan="5">*Exposure class according to Table 4.1*</th></tr>
<tr><td>*X0/XC1*</td><td>*XC2/XC3*</td><td>*XC4*</td><td>*XD1/XD2/XD3*</td><td>*XS1/XS2/XS3*</td></tr>
<tr><td>*Reference Working Life 50 years*</td><td>*S4*</td><td>*S4*</td><td>*S4*</td><td>*S4*</td><td>*S4*</td></tr>
<tr><td>*Design Working Life of 100 years*</td><td>*increase class by 2*</td><td>*increase class by 2*</td><td>*increase class by 2*</td><td>*increase class by 2*</td><td>*increase class by 2*</td></tr>
<tr><td>*Strength Class ≥ C40/50*</td><td>*reduce class by 1*</td><td>*reduce class by 1*</td><td>*reduce class by 1*</td><td>*no modification*</td><td>*no modification*</td></tr>
<tr><td>*Adequate cement and life of 100 years*</td><td>*no modification*</td><td>*reduce class by 1*</td><td>*reduce class by 1*</td><td>*reduce class by 4*</td><td>*reduce class by 4*</td></tr>
<tr><td>*Adequate cement and life of 50 years*</td><td>*no modification*</td><td>*reduce class by 1*</td><td>*reduce class by 2*</td><td>*reduce class by 3*</td><td>*reduce class by 3*</td></tr>
</table>
Table AN/3 is used:
<table>
<tr><th colspan="7">Environmental Requirement for $c_{min,dur}$ [mm]</th></tr>
<tr><th rowspan="2">Structural Class</th><th colspan="6">Exposure Class according to Table 4.1</th></tr>
<tr><td>*X0/XC1*</td><td>*XC2/XC3*</td><td>*XC4*</td><td>*XD1/XD2/XD3*</td><td>*XS1*</td><td>*XS2/XS3*</td></tr>
<tr><td>S1</td><td>10</td><td>10</td><td>15</td><td>30</td><td>30</td><td>30</td></tr>
<tr><td>S2</td><td>10</td><td>10</td><td>20</td><td>35</td><td>35</td><td>35</td></tr>
<tr><td>S3</td><td>15</td><td>15</td><td>20</td><td>40</td><td>40</td><td>35</td></tr>
<tr><td>S4</td><td>15</td><td>20</td><td>25</td><td>40</td><td>40</td><td>35</td></tr>
<tr><td>S5</td><td>20</td><td>25</td><td>30</td><td>50</td><td>50</td><td>45</td></tr>
<tr><td>S6</td><td>25</td><td>30</td><td>35</td><td>60</td><td>60</td><td>60</td></tr>
</table>
Note: Exposure classes with same values are grouped into same column
Note: For exposure classes which require special evaluation are used values from the nearest lower exposure class
For pre-stressed reinforcement is used concrete cover defined in Table AN/3</td></tr>
</table>

<table>
<tr><th></th><th></th></tr>
<tr><td>4.4.1.2 (6)</td><td>

*When choosing the “**Spanish UNE-EN NA method**” the value of concrete cover increasing by additive safety element $\Delta c_{dur,\gamma}$ is given in the National Annex:*

Table AN/4 is used:

<table>
<tr><th colspan="7">Concrete cover increasing by additive safety element $\Delta c_{dur,\gamma}$ [mm]</th></tr>
<tr><th rowspan="2">Criterion</th><th colspan="6">Exposure Class according to Table 4.1</th></tr>
<tr><td><i>X0/XC1</i></td><td><i>XC2/XC3</i></td><td><i>XC4</i></td><td><i>XD1/XD2/XD3</i></td><td><i>XS1</i></td><td><i>XS2/XS3</i></td></tr>
<tr><td>Reinforcement with normal cement</td><td>0</td><td>0</td><td>0</td><td>+5</td><td>+5</td><td>0</td></tr>
<tr><td>Reinforcement with adequate cement</td><td>0</td><td>0</td><td>0</td><td>-5</td><td>-5</td><td>0</td></tr>
<tr><td>Prestressed with adequate cement</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>+5</td></tr>
<tr><td>Prestressed with normal cement</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
</table>

Note: Exposure classes with same values are grouped into same column

Note: For exposure classes which require special evaluation are used values from the nearest lower exposure class

</td></tr>
<tr><td>4.4.1.2 (7)</td><td>

*When choosing the “**Spanish UNE-EN NA method**” the value of concrete cover reduction due using of stainless steel $\Delta c_{dur,st}$ is given in the National Annex:*

Table AN/5 is used:

<table>
<tr><th colspan="7">Concrete cover increasing by additive safety element $\Delta c_{dur,\gamma}$ [mm]</th></tr>
<tr><th rowspan="2">Criterion</th><th colspan="6">Exposure Class according to Table 4.1</th></tr>
<tr><td><i>X0/XC1</i></td><td><i>XC2/XC3</i></td><td><i>XC4</i></td><td><i>XD1/XD2/XD3</i></td><td><i>XS1</i></td><td><i>XS2/XS3</i></td></tr>
<tr><td>Normal cement</td><td>0</td><td>0</td><td>0</td><td>-25</td><td>-25</td><td>-25</td></tr>
<tr><td>Adequate cement</td><td>0</td><td>0</td><td>0</td><td>-5</td><td>-5</td><td>-10</td></tr>
</table>

Note: Exposure classes with same values are grouped into same column

Note: For exposure classes which require special evaluation are used values from the nearest lower exposure class

</td></tr>
<tr><td>4.4.1.2 (8)</td><td>

*When choosing the “**Spanish UNE-EN NA method**” the value of concrete cover reduction due using of additional protection $\Delta c_{dur,add}$ is given in the National Annex:*

Table AN/6 is used:

<table>
<tr><th colspan="7">Concrete cover increasing by additive safety element $\Delta c_{dur,add}$[mm]</th></tr>
<tr><th rowspan="2">Criterion</th><th colspan="6">Exposure Class according to Table 4.1</th></tr>
<tr><td><i>X0/XC1</i></td><td><i>XC2/XC3</i></td><td><i>XC4</i></td><td><i>XD1/XD2/XD3</i></td><td><i>XS1</i></td><td><i>XS2/XS3</i></td></tr>
<tr><td>Normal cement</td><td>0</td><td>0</td><td>0</td><td>-25</td><td>-25</td><td>-25</td></tr>
<tr><td>Adequate cement</td><td>0</td><td>0</td><td>0</td><td>-5</td><td>-5</td><td>-10</td></tr>
</table>

Note: Exposure classes with same values are grouped into same column

Note: For exposure classes which require special evaluation are used values from the nearest lower exposure class

</td></tr>
<tr><td>4.4.1.2 (13)</td><td>

Using the default EN

</td></tr>
</table>

4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*Using the default EN*
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*When choosing the "**Spanish UNE-EN NA method**" the slenderness criterion where second order effects may be ignored is given in the National Annex:* $\lambda_{lim} = 35 \cdot [(C / v) \cdot (1 + 0.24 / (e_2 / h) + 3.4 \cdot (e_1 / e_2 -1)^2)]^{1/2} \leq 100$ *where:* $v = N_{Ed} / (A_c \cdot f_{cd})$ ***e_2 …*** *1st order eccentricity in direction of the higher bending moment (M_y or M_z), considered positive* ***e_1 …*** *1st order eccentricity in direction of the lesser bending moment (M_y or M_z), considered positive if bending moment have save sign as bending moment for e_2* ***h*** *… dimension of the cross section in vertical direction* ***C*** *… Coefficient based on the arrangements of reinforcement* $C = 0.20$ *other possibilities for C are not implemented*
5.10.2.1 (1)P	*When choosing the "**Spanish UNE-EN NA method**" the value of factor to calculate the force to the tendon during tensioning is given in the National Annex:* $k_1 = 0.70$ $k_2 = 0.85$
5.10.2.1 (2)	*When choosing the "**Spanish UNE-EN NA method**" the value of factor to calculate the maximum stress applied to the tendon during tensioning is given in the National Annex:* $k_3 = 0.90$
5.10.2.2 (5)	*When choosing the "**Spanish UNE-EN NA method**" the value of coefficient for increasing of limit stress in concrete for pretension members is given in the National Annex:* $k_6 = 0.60$
5.10.3 (2)	*Using the default EN*

5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*When choosing the "**Spanish UNE-EN NA method**" the values for calculation of shear resistance of members not requiring design shear reinforcement are given in the National Annex:* $c_{Rd,c} = 0.18 / \gamma_C$ $v_{min} = 0.075 / \gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ *where* f_{ck} *is limited to 60 MPa* $k_1 = 0.15$
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Spanish UNE-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for non-compressed members is given in the National Annex:* $\theta_{min} = 26.56\ °\ (cotg = 2)$ $\theta_{max} = 63.43\ °\ (cotg = 0.5)$
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*
6.2.4 (6)	*Using the default EN*
6.4.3 (6)	*Using the default EN*
6.4.4 (1)	*When choosing the "**Spanish UNE-EN NA method**" the values for calculation punching shear resistance of slabs and column bases without shear resistance are given in the National Annex:* $c_{Rd,c} = 0.18 / \gamma_C$ $v_{min} = 0.075 / \gamma_C \cdot k^{3/2} \cdot f_{ck}^{1/2}$ *where* f_{ck} *is limited to 60 MPa* $k_1 = 0.15$
6.4.5 (3)	*When choosing the "**Spanish UNE-EN NA method**" the limitation for maximum shear resistance is given in the National Annex:* $v_{Rd,max} = 0.5 \cdot v \cdot f_{cd}$
6.5.2 (2)	*Using the default EN*
6.5.4 (4)	*Using the default EN*
7.2 (2)	*Using the default EN*
7.2 (3)	*Using the default EN*

<table>
<tr><th></th><th></th></tr>
<tr><td>7.2 (5)</td><td>Using the default EN</td></tr>
<tr><td>7.3.1 (5)</td><td>When choosing the “Spanish UNE-EN NA method” the values of maximal calculated crack width are given in the National Annex:
<table>
<tr><td>Exposure class</td><td>Reinforced members and prestressed members with unbonded tendons</td><td>Prestressed members with bonded tendons</td></tr>
<tr><td></td><td>Quasi-permanent load combination</td><td>Frequent load combination</td></tr>
<tr><td>X0</td><td>0.4</td><td>0.2</td></tr>
<tr><td>XC1, XC2, XC3, XC4, XF1, XF3</td><td>0.3</td><td>0.2</td></tr>
<tr><td>XS1, XS2, XD1, XD2, XD3, XF2, XF4, XA1</td><td>0.2</td><td rowspan="2">Decompression</td></tr>
<tr><td>XS3, XA2, XA3</td><td>0.1</td></tr>
</table>
</td></tr>
<tr><td>7.3.4 (3)</td><td>Using the default EN</td></tr>
<tr><td>8.2 (2)</td><td>When choosing the “Spanish UNE-EN NA method” the value of coefficient for calculation minimum clear bar distance and value of minimal clear bar distance are given in the National Annex:
$k_1 = 1.0$
$k_2 = 0.25 \cdot d_g$</td></tr>
<tr><td>8.3 (2)</td><td>Using the default EN
Prestressed reinforcement is not implemented and part of Table AN/10 related to reinforcement steel is same as in default EN.</td></tr>
<tr><td>9.2.1.1 (1)</td><td>When choosing the “Spanish UNE-EN NA method” the minimum reinforcement area of longitudinal reinforcement in beams is given in the National Annex:
$A_{s,min} = W / z \cdot f_{ctm,fl} / f_{yd}$
where:
W … elastic modulus of section related to the most tensioned fibres
z … inner level arm
$f_{ctm,fl}$ … mean flexural tensile strength of concrete
f_{yd} … design yield strength of longitudinal reinforcement</td></tr>
<tr><td>9.2.1.1 (3)</td><td>Using the default EN</td></tr>
<tr><td>9.2.1.2 (1)</td><td>Using the default EN</td></tr>
</table>

<table>
<tr><td></td><td></td></tr>
<tr><td>9.2.2 (5)</td><td>*When choosing the "**Spanish UNE-EN NA method**" the formula for calculation minimum ratio of shear reinforcement is given in the National Annex:*

$\rho_{w,min} = f_{ctm} / (7.5 \cdot f_{yk})$</td></tr>
<tr><td>9.2.2 (6)</td><td>*When choosing the "**Spanish UNE-EN NA method**" the value of maximum spacing between shear assemblies is given in the National Annex:*

<table>
<tr><th>Shear force utilization</th><th>$s_{l,max}$</th></tr>
<tr><td>$V_{Rd} \leq 1/5 \cdot V_{Rd,max}$</td><td>$0.75 \cdot d \cdot (1 + cotg(\alpha_s)) \leq 600$ mm</td></tr>
<tr><td>$1/5 \cdot V_{Rd,max} < V_{Rd} \leq 2/3 \cdot V_{Rd,max}$</td><td>$0.60 \cdot d \cdot (1 + cotg(\alpha_s)) \leq 450$ mm</td></tr>
<tr><td>$V_{Rd} > 2/3 \cdot V_{Rd,max}$</td><td>$0.30 \cdot d \cdot (1 + cotg(\alpha_s)) \leq 300$ mm</td></tr>
</table>
</td></tr>
<tr><td>9.2.2 (8)</td><td>*When choosing the "**Spanish UNE-EN NA method**" the formula for calculation maximum transverse spacing of the legs in series is given in the National Annex:*

$s_{t,max} = d \leq 500$ mm</td></tr>
<tr><td>9.3.1.1(3)</td><td>*When choosing the "**Spanish UNE-EN NA method**" the formulas for calculation maximum spacing of principal and secondary area of reinforcement for 2D members are given in the National Annex:*

for principal reinforcement: $s_{max,slab} = 3.0 \cdot h \leq 300$ mm
for secondary reinforcement: $s_{max,slab} = 3.5 \cdot h \leq 450$ mm</td></tr>
<tr><td>9.5.2 (1)</td><td>*When choosing the "**Spanish UNE-EN NA method**" the value of minimum diameter of longitudinal reinforcement bar in column is given in the National Annex:*

$\phi_{min} = 12$ mm</td></tr>
<tr><td>9.5.2 (2)</td><td>*When choosing the "**Spanish UNE-EN NA method**" the formula for calculation minimum area of longitudinal reinforcement in column is given in the National Annex:*

$A_{s,min} = max(0.004 \cdot A_c / f_{yd}; 0.1 \cdot N_{Ed} / f_{yd})$</td></tr>
<tr><td>9.5.2 (3)</td><td>*When choosing the "**Spanish UNE-EN NA method**" the formula for calculation maximum area of longitudinal reinforcement in column is given in the National Annex:*

$A_{s,max} = 1 \cdot f_{cd} \cdot A_c / f_{yc,d}$

where:
$f_{yc,d}$ … f_{yd} *limited to 400 MPa*</td></tr>
</table>

9.5.3 (3)	*When choosing the "**Spanish UNE-EN NA method**" the method for calculation maximum spacing of the transverse reinforcement along the column is given in the National Annex:* $s_{cl,tmax} = min(15 \cdot \phi_l; b_{min}; 300\ mm)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars* b_{min} *is the lesser dimension of the column*
9.6.2 (1)	*When choosing the "**Spanish UNE-EN NA method**" the formula for calculation minimum and maximum area of vertical reinforcement in wall is given in the National Annex:* *For* f_{yk} *= 400 MPa:* $A_{s,vmin} = max(0.0012 \cdot A_c; 0.04 \cdot A_c \cdot f_{cd} / f_{yd})$ *For* f_{yk} *= 500 MPa:* $A_{s,vmin} = max(0.0009 \cdot A_c; 0.04 \cdot A_c \cdot f_{cd} / f_{yd})$ $A_{s,vmax} = 0.04 \cdot A_c$
9.6.3 (1)	*When choosing the "**Spanish UNE-EN NA method**" the formula for calculation minimum area of horizontal reinforcement in wall is given in the National Annex:* *For* f_{yk} *= 400 MPa:* $A_{s,hmin} = 0.004 \cdot A_c$ *For* f_{yk} *= 500 MPa:* $A_{s,hmin} = 0.0032 \cdot A_c$
9.7 (1)	*Using the default EN*
12.3.1 (1)	*Using the default EN*
12.6.3 (2)	*Using the default EN*

Sweden

According to Swedish National annex SS EN 1992-1-1:2005/NA:2010-12

Article	Commentary
2.4.2.1 (1)	*Using the default EN*
2.4.2.2 (1)	*Using the default EN*
2.4.2.2 (2)	*Using the default EN*
2.4.2.4 (1)	*Using the default EN*
3.1.2 (2)P	*When choosing the "**Swedish SS-EN NA method**" the value of maximal concrete strength class is given in the National Annex:* $C_{max} = C100/115$

<table>
<tr><td></td><td></td></tr>
<tr><td>3.1.6 (1)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.6 (2)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.2.2 (3)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.2.7 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.3.4 (5)</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.3.6 (7)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (5)</td><td><i>When choosing the “Swedish SS-EN NA method” the method for determination of the minimal concrete cover $c_{min,dur}$ is given in the National Annex:</i>
<i>Table D1 is used:</i>
<table>
<tr><td colspan="5"><i>Minimum concrete cover, $c_{min,dur}$ [mm]</i></td></tr>
<tr><td><i>Exposure class</i></td><td><i>Max vct_{ekv}</i></td><td><i>Service life 100 years</i></td><td><i>Service life 50 years</i></td><td><i>Service life 20 years</i></td></tr>
<tr><td><i>X0</i></td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td><i>XC1</i></td><td><i>0.90</i></td><td>15</td><td>10</td><td>10</td></tr>
<tr><td></td><td><i>0.60</i></td><td>10</td><td>10</td><td>10</td></tr>
<tr><td><i>XC2</i></td><td><i>0.60</i></td><td>25</td><td>20</td><td>15</td></tr>
<tr><td></td><td><i>0.55</i></td><td>20</td><td>15</td><td>10</td></tr>
<tr><td></td><td><i>0.50</i></td><td>15</td><td>10</td><td>10</td></tr>
<tr><td><i>XC3, XC4</i></td><td><i>0.55</i></td><td>25</td><td>20</td><td>15</td></tr>
<tr><td></td><td><i>0.50</i></td><td>20</td><td>15</td><td>10</td></tr>
<tr><td><i>XS1, XD1</i></td><td><i>0.45</i></td><td>30</td><td>25</td><td>15</td></tr>
<tr><td></td><td><i>0.40</i></td><td>25</td><td>20</td><td>15</td></tr>
<tr><td><i>XD2</i></td><td><i>0.45</i></td><td>40</td><td>30</td><td>25</td></tr>
<tr><td></td><td><i>0.40</i></td><td>35</td><td>30</td><td>20</td></tr>
<tr><td></td><td><i>0.35</i></td><td>30</td><td>25</td><td>20</td></tr>
<tr><td><i>XD3</i></td><td><i>0.40</i></td><td>45</td><td>35</td><td>25</td></tr>
<tr><td></td><td><i>0.35</i></td><td>40</td><td>30</td><td>25</td></tr>
<tr><td><i>XS2</i></td><td><i>0.45</i></td><td>50</td><td>40</td><td>30</td></tr>
<tr><td></td><td><i>0.40</i></td><td>45</td><td>35</td><td>25</td></tr>
<tr><td></td><td><i>0.35</i></td><td>40</td><td>30</td><td>25</td></tr>
<tr><td><i>XS3</i></td><td><i>0.40</i></td><td>45</td><td>35</td><td>25</td></tr>
<tr><td></td><td><i>0.35</i></td><td>40</td><td>30</td><td>25</td></tr>
</table>
<i>Modifications for reinforcing steel with diameter less than 4 mm, fro prestressing steel and for cold-formed reinforcing steel with a permanent stress above 400 MPa are not implemented</i></td></tr>
<tr><td>4.4.1.2 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (7)</td><td><i>Using the default EN</i></td></tr>
<tr><td>4.4.1.2 (8)</td><td><i>Using the default EN</i></td></tr>
</table>

4.4.1.2 (13)	*Using the default EN*
4.4.1.3 (1)P	*Using the default EN*
4.4.1.3 (3)	*Using the default EN*
4.4.1.3 (4)	*When choosing the "**Swedish SS-EN NA method**" the values of minimum cover for concrete cast against prepared ground and concrete cast directly against soil are given in the National Annex:* $k_1 = c_{min} + 15$ **mm** $k_2 = c_{min} + 65$ **mm**
5.2 (5)	*Using the default EN*
5.5 (4)	*Using the default EN*
5.8.3.1 (1)	*Using the default EN*
5.10.2.1 (1)P	*Using the default EN*
5.10.2.1 (2)	*Using the default EN*
5.10.2.2 (5)	*Using the default EN*
5.10.3 (2)	*Using the default EN*
5.10.9 (1)P	*Using the default EN*
6.2.2 (1)	*Using the default EN*
6.2.2 (6)	*Using the default EN*
6.2.3 (2)	*When choosing the "**Swedish SS-EN NA method**" the value of minimum angle between the concrete compression strut and the beam axis perpendicular to the shear force for prestressed members is given in the National Annex:* $\theta_{min,prestressed} = 18.43°$ **(cotg = 3)** *The values of maximum angle and angles for non-prestressed members are using the default EN*
6.2.3 (3)	*Using the default EN*
6.2.4 (4)	*Using the default EN*

<table>
<tr><th></th><th></th></tr>
<tr><td>6.2.4 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.4.3 (6)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.4.4 (1)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.4.5 (3)</td><td><i>When choosing the “Swedish SS-EN NA method” the limitation for maximum shear resistance is given in the National Annex:</i>

$v_{Rd,max} = \min(0.5 \cdot v \cdot f_{cd}; 1.6 \cdot v_{Rd,c} \cdot u_1 / u_0)$</td></tr>
<tr><td>6.5.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>6.5.4 (4)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (2)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (3)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.2 (5)</td><td><i>When choosing the “Swedish SS-EN NA method” the factors for maximum stress in reinforcement or prestressing steel are given in the National Annex:</i>

$k_3 = 1\ \text{mm}$
<i>k_4 and k_5 are using the default EN values</i></td></tr>
<tr><td>7.3.1 (5)</td><td><i>When choosing the “Swedish SS-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>

<i>Table D-2 is used:</i>
<table>
<tr><td colspan="7"><i>Permitted crack width $w_{k,max}$</i></td></tr>
<tr><td rowspan="2"><i>Exposure class</i></td><td colspan="3">Corrosion sensitivity</td><td colspan="3">Little corrosion sensitivity</td></tr>
<tr><td><i>L100</i></td><td><i>L50</i></td><td><i>L20</i></td><td><i>L100</i></td><td><i>L50</i></td><td><i>L20</i></td></tr>
<tr><td><i>X0</i></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>XC1</td><td><i>0.40</i></td><td><i>0.45</i></td><td>-</td><td><i>0.45</i></td><td>-</td><td>-</td></tr>
<tr><td>XC2</td><td><i>0.30</i></td><td><i>0.40</i></td><td><i>0.45</i></td><td><i>0.40</i></td><td><i>0.45</i></td><td>-</td></tr>
<tr><td>XC3, XC4</td><td><i>0.20</i></td><td><i>0.30</i></td><td><i>0.40</i></td><td><i>0.30</i></td><td><i>0.40</i></td><td>-</td></tr>
<tr><td>XS1, XS2, XD1, XD2</td><td><i>0.15</i></td><td><i>0.20</i></td><td><i>0.30</i></td><td><i>0.20</i></td><td><i>0.30</i></td><td><i>0.40</i></td></tr>
<tr><td>XS3, XD3</td><td><i>0.10</i></td><td><i>0.15</i></td><td><i>0.20</i></td><td><i>0.15</i></td><td><i>0.20</i></td><td><i>0.30</i></td></tr>
</table>
</td></tr>
<tr><td>7.3.4 (3)</td><td><i>When choosing the “Swedish SS-EN NA method” the values of coefficients to calculate maximum final crack spacing are given in the National Annex:</i>

$k_3 = 7 \cdot \phi / c$</td></tr>
</table>

	$k_4 = 0.425$
8.2 (2)	*Using the default EN*
8.3 (2)	*Using the default EN*
9.2.1.1 (1)	*Using the default EN*
9.2.1.1 (3)	*When choosing the "**Swedish SS-EN NA method**" the value of maximum area of longitudinal reinforcement is given in the National Annex:* $A_{s,max}$ ***is unlimited***
9.2.1.2 (1)	*Using the default EN*
9.2.2 (5)	*Using the default EN*
9.2.2 (6)	*Using the default EN*
9.2.2 (8)	*Using the default EN*
9.3.1.1(3)	*Using the default EN*
9.5.2 (1)	*Using the default EN*
9.5.2 (2)	*When choosing the "**Swedish SS-EN NA method**" the formula for calculation minimum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,min} = 0.002 \cdot A_c$
9.5.2 (3)	*When choosing the "**Swedish SS-EN NA method**" the formula for calculation maximum area of longitudinal reinforcement in column is given in the National Annex:* $A_{s,max}$ ***is unlimited***
9.5.3 (3)	*Using the default EN*
9.6.2 (1)	*When choosing the "**Swedish SS-EN NA method**" the formula for calculation minimum and maximum area of vertical reinforcement in wall is given in the National Annex:* $A_{s,vmin} = 0.002 \cdot A_c$ $A_{s,vmax}$ ***is unlimited***
9.6.3 (1)	*Using the default EN*

9.7 (1)	*Using the default EN*
12.3.1 (1)	*When choosing the "**Swedish SS-EN NA method**" the coefficients taking account of long term effects on the compressive and tensile strength and of unfavourable effects resulting from the way the load is applied for plain concrete are given in the National Annex:* $\alpha_{cc,pl} = 1.00$ $\alpha_{ct,pl} = 0.50$
12.6.3 (2)	*Using the default EN*

EN 1992-1-2

Austria

According to Austrian National annex ÖNORM EN 1992-1-2/NA: 2007-04-01

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Belgium

According to Belgian National annex NBN EN 1992-1-2/NA: 2010-08

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*When choosing the "**Belgian NBN-EN NA method**" the value of coefficient for calculation of maximal first order eccentricities under fire condition is given in the National Annex:* $e_{max} = 0.4 \cdot h$ (or b)

United Kingdom

According to British National annex BS EN 1992-1-2/NA: 2005-12

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Cyprus

No National Annex currently available, using default EN.

Czech Republic

According to Czech National annex ČSN EN 1992-1-2/NA: 2007-07
ČSN EN 1992-1-2/Opr.1. 2009-10

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Denmark

No National Annex currently available, using default EN.

Netherlands

According to Dutch National annex NEN EN 1992-1-2+C1:2011/NB:2011

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*When choosing the "**Dutch NEN-EN NA method**" the value of coefficient for calculation of maximal first order eccentricities under fire condition is given in the National Annex:* *For column width b < 300 mm* $e_{max} = 0.15 \cdot h$ (or b) *For column width b ≥ 300 mm* $e_{max} = 0.40 \cdot h$ (or b)

Finland

According to Finnish National annex SFS EN 1992-1-2/NA

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*When choosing the "**Finnish SFS-EN NA method**" the value of coefficient for calculation of maximal first order eccentricities under fire condition is given in the National Annex:* $e_{max} = 0.4 \cdot h$ (or b)

France

According to French National annex NF EN 1992-1-2/NA:2007-10

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Germany

According to German National annex DIN EN 1992-1-2/NA:2010-12

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Greece

According to Greek National annex draft ELOT EN 1492-1-2:2009

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Ireland

According to Irish National annex I.S. EN 1992-1-2/NA:2010-01

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Italy

No National Annex currently available, using default EN.

Luxembourg

According to Luxembourgian National annex EN 1992-1-2:2004/AN-LU:2011-09

Article	Commentary
2.3.2 (2)P	*Using the default EN*

5.3.2 (2)	*When choosing the "**Luxembourgian LU-EN NA method**" the value of coefficient for calculation of maximal first order eccentricities under fire condition is given in the National Annex:* $e_{max} = 0.4 \cdot h$ (or b)

Malaysia

No National Annex currently available, using default EN.

Norway

According to Norwegian National annex NS EN 1992-1-2:2004/NA:2010

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Poland

According to Polish National annex PN EN 1992-1-2/NA:2008

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Romania

No National Annex currently available, using default EN.

Singapore

No National Annex currently available, using default EN.

Slovakia

According to Slovakian National annex STN EN 1992-1-2/NA:2008-08

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

Slovenia

No National Annex currently available, using default EN.

Spain

No National Annex currently available, using default EN.

Sweden

According to Swedish National annex SS EN 1992-1-2:2004/NA:2009-01

Article	Commentary
2.3.2 (2)P	*Using the default EN*
5.3.2 (2)	*Using the default EN*

EN 1992-2

Austria

According to Austrian National annex ÖNORM B 1992-2/NA: 2008-08

Article	Commentary
3.1.2 (102)P	*When choosing the “**Austrian ÖNORM-EN NA method**” the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:* $f_{ck,min}$ ***= 25 MPa*** $f_{ck,max}$ ***= 60 MPa***
3.1.6 (101)P	*Using the default EN*
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*When choosing the “**Austrian ÖNORM-EN NA method**” the reinforcement classes to be used for bridges are given in the National Annex:* *For non-prestressed reinforcement with adequate ductility:* ***B+C class*** *For massive columns and foundations:* ***A class***
5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*
7.3.1 (105)	*When choosing the “**Austrian ÖNORM-EN NA method**” the values of maximal calculated crack width are given in the National Annex:*

Maximal crack width table [mm]

Exposure class	*RM (Quasi)*	*RM (Freq)*	*POST (Freq)*	*POST (Quasi)*	*POST (Char)*	*PRE (Freq)*	*PRE (Quasi)*	*PRE (Char)*
X0, XC1	*0.3*	*-*	*0.2*	*-*	*-*	*0.2*	*-*	*-*
XC2, XC3, XC4, XD1, XS1	*0.3*	*-*	*0.2*	*-*	*-*	*-*	*-*	*0.2*
XD2, XS2	*0.3*	*-*	*-*	*-*	*0.2*	*-*	*-*	*0.2*
XD3, XS3	*-*	*0.3*	*-*	*-*	*0.2*	*-*	*-*	*-*

Decompression check

Exposure class	*RM (Quasi)*	*RM (Freq)*	*POST (Freq)*	*POST (Quasi)*	*POST (Char)*	*PRE (Freq)*	*PRE (Quasi)*	*PRE (Char)*
X0, XC1	*No*	*No*	*No*	*Yes*	*No*	*No*	*Yes*	*No*
XC2, XC3, XC4, XD1, XS1	*No*	*No*	*No*	*Yes*	*No*	*Yes*	*No*	*No*
XD2, XS2	*No*	*No*	*Yes*	*No*	*No*	*Yes*	*No*	*No*
XD3, XS3	*No*	*No*	*Yes*	*No*	*No*	*No*	*No*	*Yes*

where:

RM … reinforced member

PM … prestressed member

POST … member with post-tension tendons

Quasi … under quasi-permanent load combination

Char … under characteristic load combination

Freq … under frequent load combination

- in table means – Crack width is not checked in this case

9.5.3 (101)	*When choosing the "**Austrian ÖNORM-EN NA method**" the minimum diameter of the transverse reinforcement in the column is given in the National Annex:* **$\phi_{cl,tmax} = \min(10\text{ mm}; 0.25 \cdot \phi_l)$** *where: ϕ_l is minimum diameter of the longitudinal bars*
113.3.2 (103)	*Using the default EN*

Belgium

No National Annex currently available, using default EN.

United Kingdom

According to British National annex BS EN 1992-2/NA: 2007-12

Article	Commentary

3.1.2 (102)P	*When choosing the "**British BS-EN NA method**" the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:* $f_{ck,min}$ ***= 25 MPa*** $f_{ck,max}$ ***= 50 MPa*** *for shear strength* $f_{ck,max}$ ***= 70 MPa*** *for other cases*
3.1.6 (101)P	*When choosing the "**British BS-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* α_{cc} ***= 0.85*** *for compression in flexure and axial loading* α_{cc} ***= 1.0*** *for other phenomena*
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*
5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*
7.3.1 (105)	*Using the default EN*
9.5.3 (101)	*Using the default EN*
113.3.2 (103)	*Using the default EN*

Cyprus

According to Cypriot National annex CYS EN 1992-2/NA:2010-06

Article	Commentary
3.1.2 (102)P	*Using the default EN*
3.1.6 (101)P	*Using the default EN*
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*
5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*

7.3.1 (105)	*Using the default EN*
9.5.3 (101)	*Using the default EN*
113.3.2 (103)	*Using the default EN*

Czech Republic

According to Czech National annex ČSN EN 1992-2/NA:2011-07
ČSN EN 1992-2/Opr.1.2009-10
ČSN EN 1992-2/Z1 2010-03
ČSN EN 1992-2/Z2 2014-01

<table>
<tr><th>Article</th><th>Commentary</th></tr>
<tr><td>3.1.2 (102)P</td><td><i>When choosing the “Czech ČSN-EN NA method” the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:</i>

$f_{ck,min} = 20$ <i>MPa</i>
$f_{ck,max} = 90$ <i>MPa</i></td></tr>
<tr><td>3.1.6 (101)P</td><td><i>When choosing the “Czech ČSN-EN NA method” the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:</i>

$\alpha_{cc} = 0.90$</td></tr>
<tr><td>3.1.6 (102)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.2.4 (101)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.2 (105)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (104)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.3.1 (105)</td><td><i>When choosing the “Czech ČSN-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>

<i>Maximal crack width table [mm]</i>
<table>
<tr><td><i>Exposure class</i></td><td><i>RM (Quasi)</i></td><td><i>PRE (Freq)</i></td><td><i>PRE (Char)</i></td><td><i>POST-PL1 (Freq)</i></td><td><i>POST-PL2+3 (Freq)</i></td></tr>
<tr><td><i>X0, XC1</i></td><td><i>0.4</i></td><td><i>0.2</i></td><td><i>0</i></td><td><i>0.2</i></td><td><i>0.3</i></td></tr>
<tr><td><i>XC2, XC3, XC4, XD1, XS1</i></td><td><i>0.3</i></td><td><i>0.1</i></td><td><i>0</i></td><td><i>0.2</i></td><td><i>0.3</i></td></tr>
<tr><td><i>XD2, XD3, XS2, XS3</i></td><td><i>0.2</i></td><td><i>-</i></td><td><i>0.2</i></td><td><i>0.1</i></td><td><i>0.2</i></td></tr>
</table>

<i>Decompression check</i></td></tr>
</table>

Exposure class	*RM (Quasi)*	*PRE (Freq)*	*PRE (Char)*	*POST-PL1 (Freq)*	*POST-PL2+3 (Freq)*
X0, XC1	*No*	*No*	*No*	*No*	*No*
XC2, XC3, XC4, XD1, XS1	*No*	*No*	*No*	*No*	*No*
XD2, XD3, XS2, XS3	*No*	*Yes*	*No*	*No*	*No*

where:

RM … reinforced member

PRE … member with pre-tension tendons

POST … member with post-tension tendons

PL … protection level

Quasi … under quasi-permanent load combination

Char … under characteristic load combination

Freq … under frequent load combination

- in table means – Crack width is not checked in this case

9.5.3 (101)	*When choosing the "**Czech ČSN-EN NA method**" the minimum diameter of the transverse reinforcement in the column is given in the National Annex:* $\phi_{cl,tmax} = \min(8\ \text{mm}; 0.25 \cdot \phi_l)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars*
113.3.2 (103)	*Using the default EN*

Denmark

No National Annex currently available, using default EN.

Netherland

According to Dutch National annex NEN EN 1992-2+C1:2011/NB:2011

Article	Commentary
3.1.2 (102)P	*Using the default EN*
3.1.6 (101)P	*When choosing the "**Dutch NEN-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* $\alpha_{cc} = 1.0$
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*

<table>
<tr><th></th><th></th></tr>
<tr><td>5.2 (105)</td><td><i>When choosing the “Dutch NEN-EN NA method” the basic value of inclination is given in the National Annex:</i>

$\boldsymbol{\theta_0 = 1/300}$</td></tr>
<tr><td>5.5 (104)</td><td><i>When choosing the “Dutch NEN-EN NA method” the values of coefficients to calculate the distributed moment are given in the National Annex:</i>

$\boldsymbol{k_1 = f / (500 + f)}$
$\boldsymbol{k_2 = 1.0}$
$\boldsymbol{k_3 = 7 \cdot f / (\varepsilon_{cu} \cdot 10^6 + 7 \cdot f)}$
$\boldsymbol{k_4 = 1.0}$
$\boldsymbol{k_5 = 0.7}$

$\boldsymbol{f = [(f_{pk} / \gamma_S - \sigma_{pm,\infty}) \cdot A_p + f_{yd} \cdot A_s] / (A_p + A_s)}$</td></tr>
<tr><td>7.3.1 (105)</td><td><i>When choosing the “Dutch NEN-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>

<i>Maximal crack width table [mm]</i>
<table>
<tr><th><i>Exposure class</i></th><th><i>RM (Quasi)</i></th><th><i>PM (Freq)</i></th></tr>
<tr><td><i>X0, XC1</i></td><td><i>0.4</i></td><td><i>0.3</i></td></tr>
<tr><td><i>XC2, XC3, XC4</i></td><td><i>0.3</i></td><td><i>0.2</i></td></tr>
<tr><td><i>XD1, XD2, XD3, XS1, XS2, XS3</i></td><td><i>0.2</i></td><td><i>0.1</i></td></tr>
</table>

<i>Decompression check</i>
<table>
<tr><th><i>Exposure class</i></th><th><i>RM (Quasi)</i></th><th><i>PM (Freq)</i></th></tr>
<tr><td><i>X0, XC1</i></td><td><i>No</i></td><td><i>Yes</i></td></tr>
<tr><td><i>XC2, XC3, XC4</i></td><td><i>No</i></td><td><i>Yes</i></td></tr>
<tr><td><i>XD1, XD2, XD3, XS1, XS2, XS3</i></td><td><i>No</i></td><td><i>Yes</i></td></tr>
</table>

<i>where:</i>
<i>RM … reinforced member</i>
<i>PM … prestressed member</i>
<i>Quasi … under quasi-permanent load combination</i>
<i>Freq … under frequent load combination</i>

<i>Limit decompression stress is calculated by</i>
$\boldsymbol{\Delta\sigma_p \leq k_{dec} \cdot \xi}$

<i>Coefficients for calculation of limit decompression stress</i>
<table>
<tr><th><i>Exposure class</i></th><th>k_{dec} <i>[-]</i></th></tr>
<tr><td><i>X0, XC1</i></td><td><i>275</i></td></tr>
<tr><td><i>XC2, XC3, XC4</i></td><td><i>275</i></td></tr>
<tr><td><i>XD1, XD2, XD3, XS1, XS2, XS3</i></td><td><i>75</i></td></tr>
</table>
</td></tr>
</table>

9.5.3 (101)	*When choosing the "**Dutch NEN-EN NA method**" the minimum diameter of the transverse reinforcement in the column is given in the National Annex:* **$\phi_{cl,tmax} = \min(6 \text{ mm}; 0.25 \cdot \phi_l)$** *where: ϕ_l is minimum diameter of the longitudinal bars*
113.3.2 (103)	*Using the default EN*

Finland

According to Finnish National annex SFS EN 1992-2/NA:2010-06

<table>
<tr><th>Article</th><th>Commentary</th></tr>
<tr><td>3.1.2 (102)P</td><td><i>When choosing the "Finnish SFS-EN NA method" the values of minimal and characteristics cylinder strength of concrete is given in the National Annex:</i>
$f_{ck,min} = 25$ MPa</td></tr>
<tr><td>3.1.6 (101)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.6 (102)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.2.4 (101)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.2 (105)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (104)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.3.1 (105)</td><td><i>When choosing the "Finnish SFS-EN NA method" the values of maximal calculated crack width are given in the National Annex:</i>
<i>Maximal crack width table [mm]</i>
<table>
<tr><td><i>Exposure class</i></td><td><i>RM (Quasi)</i></td><td><i>PM (Freq)</i></td><td><i>PM (Quasi)</i></td></tr>
<tr><td><i>X0, XC1</i></td><td><i>0.3</i></td><td><i>0.2</i></td><td><i>-</i></td></tr>
<tr><td><i>XC2, XC3, XC4, XD1, XS1</i></td><td><i>0.2</i></td><td><i>0.2</i></td><td><i>-</i></td></tr>
<tr><td><i>XD2, XD3, XS2, XS3</i></td><td><i>0.1</i></td><td><i>-</i></td><td><i>-</i></td></tr>
</table>
<i>Decompression check</i>
<table>
<tr><td><i>Exposure class</i></td><td><i>RM (Quasi)</i></td><td><i>PM (Freq)</i></td><td><i>PM (Quasi)</i></td></tr>
<tr><td><i>X0, XC1</i></td><td><i>No</i></td><td><i>No</i></td><td><i>No</i></td></tr>
<tr><td><i>XC2, XC3, XC4, XD1, XS1</i></td><td><i>No</i></td><td><i>No</i></td><td><i>Yes</i></td></tr>
<tr><td><i>XD2, XD3, XS2, XS3</i></td><td><i>No</i></td><td><i>Yes</i></td><td><i>No</i></td></tr>
</table>
<i>where:</i>
<i>RM … reinforced member</i></td></tr>
</table>

	PM … prestressed member *Quasi … under quasi-permanent load combination* *Freq … under frequent load combination* *- in table means – Crack width is not checked in this case*
9.5.3 (101)	*When choosing the "**Finnish SFS-EN NA method**" the minimum diameter of the transverse reinforcement in the column is given in the National Annex:* $\phi_{cl,tmax} = \min(8\text{ mm}; 0.25 \cdot \phi_l)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars*
113.3.2 (103)	*Using the default EN*

France

According to French National annex NF EN 1992-2/NA:2007

Article	Commentary
3.1.2 (102)P	*When choosing the "**French NF-EN NA method**" the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:* $f_{ck,min} = 20\text{ MPa}$ $f_{ck,max} = 90\text{ MPa}$
3.1.6 (101)P	*When choosing the "**French NF-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* $\alpha_{cc} = 1.0$
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*
5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*
7.3.1 (105)	*Using the default EN*
9.5.3 (101)	*When choosing the "**French NF-EN NA method**" the minimum diameter of the transverse reinforcement in the column is given in the National Annex:* $\phi_{cl,tmax} = \min(6\text{ mm}; 0.4 \cdot \phi_l)$ *where:* ϕ_l *is minimum diameter of the longitudinal bars*

113.3.2 (103)	*Using the default EN*

Germany

No National Annex currently available, using default EN.

Greece

According to Greek National annex draft ELOT EN 1492-2:2009
draft ELOT EN 1492-2/NA:2009-06

Article	Commentary
3.1.2 (102)P	*When choosing the “**Greek ELOT-EN NA method**” the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:* **$f_{ck,min}$ = 25 MPa** *for non-prestressed concrete* **$f_{ck,min}$ = 30 MPa** *for prestressed concrete* **$f_{ck,max}$ = 50 MPa**
3.1.6 (101)P	*Using the default EN*
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*When choosing the “**Greek ELOT-EN NA method**” the reinforcement classes to be used for bridges are given in the National Annex:* ***C class***
5.2 (105)	*Using the default EN*
5.5 (104)	*When choosing the “**Greek ELOT-EN NA method**” the values of coefficients to calculate the distributed moment are given in the National Annex:* **k_1 = 0.64** **k_2 = 0.80** **k_3 = 0.64** **k_4 = 0.80** **k_5 = 0.85**
7.3.1 (105)	*Using the default EN*
9.5.3 (101)	*When choosing the “**Greek ELOT-EN NA method**” the minimum diameter of the transverse reinforcement in the column is given in the National Annex:* **$\phi_{cl,tmax}$ = min(10 mm; 0.25 · ϕ_l)** *for $\phi_l \leq$ 28 mm*

	$\phi_{cl,tmax}$ = min(12 mm; 0.25 · ϕ_l) *for ϕ_l > 28 mm* *where: ϕ_l is minimum diameter of the longitudinal bars*
113.3.2 (103)	*Using the default EN*

Ireland

According to Irish National annex I.S. EN 1992-2:2005
I.S. EN 1992-2/NA:2010-01

Article	Commentary
3.1.2 (102)P	*When choosing the "**Irish IS-EN NA method**" the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:* ***$f_{ck,min}$ = 25 MPa***
3.1.6 (101)P	*When choosing the "**Irish IS-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* ***α_{cc} = 0.85***
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*
5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*
7.3.1 (105)	*When choosing the "**Irish IS-EN NA method**" the values of maximal calculated crack width are given in the National Annex:* *Maximal crack width table [mm]*

Exposure class	*RM (Quasi)*	*PM (Freq)*
X0, XC1	*0.25*	*-*
XC2, XC3, XC4	*0.25*	*-*
XD1, XD2, XD3, XS1, XS2, XS3	*0.1*	*-*

Decompression check

Exposure class	*RM (Quasi)*	*PM (Freq)*
X0, XC1	*No*	*Yes*
XC2, XC3, XC4	*No*	*Yes*
XD1, XD2, XD3, XS1, XS2, XS3	*No*	*Yes*

where:

	RM … reinforced member *PM … prestressed member* *Quasi … under quasi-permanent load combination* *Freq … under frequent load combination* *- in table means – Crack width is not checked in this case*
9.5.3 (101)	*Using the default EN*
113.3.2 (103)	*Using the default EN*

Italy

No National Annex currently available, using default EN.

Luxembourg

According to Luxembourgian National annex LU EN 1992-2:2005/AN-LU:2011-09

<table>
<tr><th>Article</th><th>Commentary</th></tr>
<tr><td>3.1.2 (102)P</td><td><i>When choosing the “Luxembourgian LU-EN NA method” the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:</i>
$f_{ck,max} = 90$ <i>MPa</i></td></tr>
<tr><td>3.1.6 (101)P</td><td><i>When choosing the “Luxembourgian LU-EN NA method” the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:</i>
$\alpha_{cc} = 0.85$ <i>for simple and composed bending</i>
$\alpha_{cc} = 1.0$ <i>for other phenomena</i></td></tr>
<tr><td>3.1.6 (102)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.2.4 (101)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.2 (105)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (104)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.3.1 (105)</td><td><i>When choosing the “Luxembourgian LU-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>
<i>Maximal crack width table [mm]</i>
<table>
<tr><th><i>Structure</i></th><th><i>RM</i></th><th><i>PM</i></th></tr>
<tr><td><i>Road superstructure</i></td><td><i>0.2</i></td><td><i>-</i></td></tr>
</table></td></tr>
</table>

<table>
<tr>
<td></td>
<td>
<table>
<tr><td><i>Railway superstructure</i></td><td><i>0.3</i></td><td><i>-</i></td></tr>
<tr><td><i>Other superstructure</i></td><td><i>0.2</i></td><td><i>-</i></td></tr>
<tr><td><i>Piles and columns</i></td><td><i>0.3</i></td><td><i>0.2</i></td></tr>
<tr><td><i>Earth retaining structure</i></td><td><i>0.2</i></td><td><i>0.2</i></td></tr>
<tr><td><i>Anchorage reactions</i></td><td><i>0.3</i></td><td><i>-</i></td></tr>
</table>
<i>Decompression check</i>
<table>
<tr><td><i>Structure</i></td><td><i>RM</i></td><td><i>PM</i></td></tr>
<tr><td><i>Road superstructure</i></td><td><i>No</i></td><td><i>No</i></td></tr>
<tr><td><i>Railway superstructure</i></td><td><i>No</i></td><td><i>No</i></td></tr>
<tr><td><i>Other superstructure</i></td><td><i>No</i></td><td><i>No</i></td></tr>
<tr><td><i>Piles and columns</i></td><td><i>No</i></td><td><i>Yes</i></td></tr>
<tr><td><i>Earth retaining structure</i></td><td><i>No</i></td><td><i>Yes</i></td></tr>
<tr><td><i>Anchorage reactions</i></td><td><i>No</i></td><td><i>No</i></td></tr>
</table>
<i>where:</i>
<i>RM … reinforced member</i>
<i>PM … prestressed member</i>

<i>- in table means – Crack width is not checked in this case</i>
</td>
</tr>
<tr><td>9.5.3 (101)</td><td><i>Using the default EN</i></td></tr>
<tr><td>113.3.2 (103)</td><td><i>When choosing the “Luxembourgian LU-EN NA method” the factor for maximum tensile stress during execution for quasi-permanent combination is given in the National Annex:</i>

<i>k = 0.7</i></td></tr>
</table>

Malaysia

No National Annex currently available, using default EN.

Norway

No National Annex currently available, using default EN.

Poland

According to Polish National annex PN EN 1992-2/NA:2010-03

Article	Commentary
3.1.2 (102)P	*Using the default EN*
3.1.6 (101)P	*Using the default EN*
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*

5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*
7.3.1 (105)	*Using the default EN*
9.5.3 (101)	*Using the default EN*
113.3.2 (103)	*Using the default EN*

Romania

No National Annex currently available, using default EN.

Singapore

No National Annex currently available, using default EN.

Slovakia

According to Slovakian National annex STN EN 1992-2/NA:2008-07

<table>
<tr><th>Article</th><th>Commentary</th></tr>
<tr><td>3.1.2 (102)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.6 (101)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.1.6 (102)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>3.2.4 (101)P</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.2 (105)</td><td><i>Using the default EN</i></td></tr>
<tr><td>5.5 (104)</td><td><i>Using the default EN</i></td></tr>
<tr><td>7.3.1 (105)</td><td><i>When choosing the “Slovakian STN-EN NA method” the values of maximal calculated crack width are given in the National Annex:</i>

<i>Maximal crack width table [mm]</i>
<table>
<tr><td><i>Exposure class</i></td><td><i>RM (Quasi)</i></td><td><i>PM (Freq)</i></td><td><i>PM (Quasi)</i></td></tr>
<tr><td><i>X0, XC1</i></td><td><i>0.3</i></td><td><i>0.2</i></td><td><i>-</i></td></tr>
<tr><td><i>XC2, XC3, XC4</i></td><td><i>0.3</i></td><td><i>0.2</i></td><td><i>-</i></td></tr>
<tr><td><i>XD1, XD2, XD3, XS1, XS2, XS3</i></td><td><i>0.3</i></td><td><i>-</i></td><td><i>-</i></td></tr>
</table>

<i>Decompression check</i></td></tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><th><i>Exposure class</i></th><th><i>RM (Quasi)</i></th><th><i>PM (Freq)</i></th><th><i>PM (Quasi)</i></th></tr>
<tr><td><i>X0, XC1</i></td><td><i>No</i></td><td><i>No</i></td><td><i>No</i></td></tr>
<tr><td><i>XC2, XC3, XC4</i></td><td><i>No</i></td><td><i>No</i></td><td><i>Yes</i></td></tr>
<tr><td><i>XD1, XD2, XD3, XS1, XS2, XS3</i></td><td><i>No</i></td><td><i>Yes</i></td><td><i>No</i></td></tr>
</table>
<i>where:</i>
<i>RM … reinforced member</i>
<i>PM … prestressed member</i>
<i>Quasi … under quasi-permanent load combination</i>
<i>Freq … under frequent load combination</i>

<i>- in table means – Crack width is not checked in this case</i>
</td></tr>
<tr><td>9.5.3 (101)</td><td><i>Using the default EN</i></td></tr>
<tr><td>113.3.2 (103)</td><td><i>Using the default EN</i></td></tr>
</table>

Slovenia

No National Annex currently available, using default EN.

Spain

According to Spanish National annex UNE EN 1992-2:2005/AN:2013-02

Article	Commentary
3.1.2 (102)P	*When choosing the "**Spanish UNE-EN NA method**" the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:* $\boldsymbol{f_{ck,min} = 25\ MPa}$ $\boldsymbol{f_{ck,max} = 90\ MPa}$
3.1.6 (101)P	*When choosing the "**Spanish UNE-EN NA method**" the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* $\boldsymbol{\alpha_{cc} = 1.0}$
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*
5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*

<table>
<tr><td>7.3.1 (105)</td><td>When choosing the “Spanish UNE-EN NA method” the values of maximal calculated crack width are given in the National Annex:

Maximal crack width table [mm]
<table>
<tr><td>Exposure class</td><td>RM (Quasi)</td></tr>
<tr><td>X0</td><td>0.4</td></tr>
<tr><td>XC1, XC2, XC3, XC4, XF1, XF3</td><td>0.3</td></tr>
<tr><td>XS1, XS2, XD1, XD2, XD3, XF2, XF4, XA1</td><td>0.2</td></tr>
<tr><td>XS3, XA2, XA3</td><td>0.1</td></tr>
</table>
where:
RM … reinforced member
Quasi … under quasi-permanent load combination</td></tr>
<tr><td>9.5.3 (101)</td><td>When choosing the “Spanish UNE-EN NA method” the minimum diameter of the transverse reinforcement in the column is given in the National Annex:

$\phi_{min} = \phi_{min,mesh} = 10$ mm</td></tr>
<tr><td>113.3.2 (103)</td><td>Using the default EN</td></tr>
</table>

Sweden

According to Swedish National annex SS EN 1992-2:2005/NA:2008-12

Article	Commentary
3.1.2 (102)P	*When choosing the “**Swedish SS-EN NA method**” the values of minimal and maximal characteristics cylinder strengths of concrete are given in the National Annex:* $f_{ck,min} = 25$ MPa $f_{ck,max} = 100$ MPa
3.1.6 (101)P	*When choosing the “**Swedish SS-EN NA method**” the coefficient taking account of long term effects on the compressive strength and of unfavourable effects resulting from the way the load is applied is given in the National Annex:* $\alpha_{cc} = 1.0$
3.1.6 (102)P	*Using the default EN*
3.2.4 (101)P	*Using the default EN*
5.2 (105)	*Using the default EN*
5.5 (104)	*Using the default EN*

<table>
<tr>
<td>7.3.1 (105)</td>
<td>
<p>When choosing the “Swedish SS-EN NA method” the values of maximal calculated crack width are given in the National Annex:</p>
<p>Maximal crack width table [mm]</p>
<table>
<tr><th>Exposure class</th><th>RM – L100 (Quasi)</th><th>RM – L50 (Quasi)</th><th>RM – L20 (Quasi)</th><th>PM – L100 (Freq)</th><th>PM – L50 (Freq)</th><th>PM – L20 (Freq)</th><th>PM – L100 (Quasi)</th><th>PM – L50 (Quasi)</th><th>PM – L20 (Quasi)</th></tr>
<tr><td>X0, XC1</td><td>0.45</td><td>0.45</td><td>0.45</td><td>0.4</td><td>0.45</td><td>0</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>XC2,</td><td>0.4</td><td>0.45</td><td>-</td><td>0.3</td><td>0.4</td><td>0.45</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>XC3, XC4</td><td>0.3</td><td>0.4</td><td>-</td><td>0.2</td><td>0.3</td><td>0.4</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>XS1, XS2, XD1, XD2</td><td>0.2</td><td>0.3</td><td>0.4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>XS3, XD3</td><td>0.15</td><td>0.2</td><td>0.3</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
<p>Decompression check</p>
<table>
<tr><th>Exposure class</th><th>RM – L100 (Quasi)</th><th>RM – L50 (Quasi)</th><th>RM – L20 (Quasi)</th><th>PM – L100 (Freq)</th><th>PM – L50 (Freq)</th><th>PM – L20 (Freq)</th><th>PM – L100 (Quasi)</th><th>PM – L50 (Quasi)</th><th>PM – L20 (Quasi)</th></tr>
<tr><td>X0, XC1</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td></tr>
<tr><td>XC2,</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>XC3, XC4</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>XS1, XS2, XD1, XD2</td><td>No</td><td>No</td><td>No</td><td>Yes</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td><td>No</td></tr>
<tr><td>XS3, XD3</td><td>No</td><td>No</td><td>No</td><td>Yes</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td><td>No</td></tr>
</table>
<p>where:</p>
<p>RM … reinforced member</p>
<p>PM … prestressed member</p>
<p>Quasi … under quasi-permanent load combination</p>
<p>Char … under characteristic load combination</p>
<p>Freq … under frequent load combination</p>
<p>L100 … service life at least 100 years</p>
<p>L50 … service life at least 50 years</p>
<p>L20 … service life at least 20 years</p>
<p>- in table means – Crack width is not checked in this case</p>
</td>
</tr>
<tr>
<td>9.5.3 (101)</td>
<td>Using the default EN</td>
</tr>
<tr>
<td>113.3.2 (103)</td>
<td>
<p>When choosing the “Swedish SS-EN NA method” the factor for maximum tensile stress during execution for quasi-permanent combination is given in the National Annex:</p>
<p>k = 0.5</p>
</td>
</tr>
</table>