

General Specification for Civil Engineering Works

2020 Edition

AMENDMENT NO. 1/2025

VOLUME 2

SECTION 15 STEEL REINFORCEMENT

MATERIALS

- (a) Clause 15.03 **Replace the table with the following:**

Category	Reinforcement	Compliance
A	Steel reinforcing bars covered by CS2	CS2
B	Other reinforcing steel bars Grade 500 not covered by CS2	BS 4449
C	Plain round steel bars (diameter > 12 mm) of Grade 250 not covered by CS2	BS 4449:1997
D	Plain round steel bars (diameter ≤ 12 mm) of Grade 250 not covered by CS2	BS 4482
E	Steel fabric sheets	BS 4483

- (b) Clause 15.12 **Add “of bar/wire” at the end of the second bullet of item (1)(b).**

FIXING REINFORCEMENT

- (c) **Add “AND REINFORCEMENT CONNECTORS” at the end of the section heading.**

TESTING: REINFORCEMENT

- (d) **Add “AND REINFORCEMENT CONNECTORS” at the end of the section heading.**
- (e) Clause 15.30 **Add “*and reinforcement connectors*” at the end of the heading.**
- (f) Clause 15.31 **Add “*and reinforcement connectors*” at the end of the heading.**

Replace the table in item (2) with the following:

Description	Number of specimens
Category A reinforcement (i.e. steel reinforcing bars covered by CS2)	In accordance with CS2 Table 10
Category B reinforcement (i.e. steel reinforcing bars of Grade 500 not covered by CS2)	In accordance with BS 4449 Cl. 8.1.2
Category C reinforcement (i.e. plain round steel bars of Grade 250 with $d > 12$ mm not covered by CS2)	In accordance with BS 4449:1997 Cl. 10
Category D reinforcement (i.e. plain round steel bars of Grade 250 with $d \leq 12$ mm not covered by CS2)	In accordance with BS 4482 Cl. 8.1.2
Category E reinforcement (i.e. steel fabric sheets)	3
Epoxy-coated or galvanized reinforcement	2 additional specimens
Reinforcement connectors for tension joints	3

Replace Table 15.1 with the following:

Table 15.1: Rate of sampling of reinforcement and reinforcement connectors

Description	Size of batch	No. of samples per batch
Reinforcement (except steel fabric sheets)	All sizes	1
Steel fabric sheets	0 – 50 tonnes	1
	Each additional 50 tonnes or part of 50 tonnes	1
Reinforcement connectors for tension joints	less than 100 no.	1
	100 - 500 no.	2
	exceeding 500 no.	3

(g) Clause 15.32 **Add “and reinforcement connectors” at the end of the heading.**

Replace the table in item (1) with the following:

Description	Testing requirement
Category A reinforcement (i.e. steel reinforcing bars covered by CS2)	CS2 Cl. 5.1.1
Category B reinforcement (i.e. steel reinforcing bars of Grade 500 not covered by CS2)	BS 4449 Cl. 8.1.2 with methods in Cl. 9
Category C reinforcement (i.e. plain round steel bars of Grade 250 with $d > 12$ mm not covered by CS2)	BS 4449:1997 Cl. 10
Category D reinforcement (i.e. plain round steel bars of Grade 250 with $d \leq 12$ mm not covered by CS2)	BS 4482 Cl. 8.1.2 with methods in Cl. 9

Replace item (2) with the following:

(2) Each sample of steel fabric sheets (Category E) shall be tested in accordance with BS 4483 Cl. 8.1.2 with methods in Cl. 9 with following modifications:-

- (a) The number of tests shall be as stated in Table 15.2; and
- (b) The mass shall be measured as mass of fabric per square metre.

Replace Table 15.2 with the following:

Table 15.2: Number of tests on each sample of reinforcement and reinforcement connectors

Description	Type and number of tests								
	Tensile properties	Bend performance	Mass	Chemical composition (product analysis)	Bond property	Weld shear	Pitch dimension	Thickness, adhesion and continuity	Thickness and uniformity
Reinforcement (except steel fabric sheets)	In accordance with Clause 15.32(1)					-	-	-	-
Steel fabric sheets									
- sheet	-	-	3	-	-	2 [#]	-	-	-
- longitudinal bar/wire	3	1 [#]	-	-	-	-	1 [#]	-	-
- transverse bar/wire	3	1 [#]	-	-	-	-	1 [#]	-	-
Epoxy coating	-	-	-	-	-	-	-	2	-
Galvanized coating	-	-	-	-	-	-	-	-	2

Reinforcement connectors for tension joints	3	-	-	-	-	-	-	-	-
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Note #: Tests to be carried out on one of the three specimens collected for Category E reinforcement as per Clause 15.31(2)

Replace item (5) with the following:

(5) For Category E (i.e. steel fabric sheets) reinforcement, the batch shall be deemed to comply with the requirements if the results of the tests performed on the test specimens meet the requirements as stated in Table 15.3.

Table 15.3: Specified test requirement / tolerance on steel fabric sheet

Type of Tests	Requirement / Tolerance
Pitch dimension	BS 4483 Cl. 7.3.2
Tensile properties	BS 4483 Cl. 8.1.3.1
Bend performance	BS 4483 Cl. 8.1.3.2
Weld shear	BS 4483 Cl. 8.1.3.2
Mass per square metre of steel fabric sheet with diameter of bars / wires in either direction greater than 8mm	± 4.5% of nominal mass
Mass per square metre of steel fabric sheet with diameter of bars / wires in both directions less than or equal to 8 mm	± 6.0% of nominal mass

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