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Tensile Strength Test for Coupler

1.0 Title

Tensile Strength Test for Coupler.

2.0 Purpose

Test performed at the initiation of a product to demonstrate that the properties conform to the requirements.

3.0 Scope

Reinforcement couplers for mechanical splices of bar.

4.0 Reference

4.1 ISO 15835, Steels for the reinforcement of concrete.

4.2 BS 8110-1, Structural use of concrete (Clause 3.12.8.16.2)

4.3 BS EN 10002-1, Metalic Materials – Tensile Testing.

5.0 Test Method

5.1 Testing equipments are verified and calibrated as conform to ISO 15630-1 clause 5.2.

5.2 Test procedures are carried out according to ISO 15630-1 clause 5.

5.3 The test involves straining a test piece in tension, generally to fracture, for the purpose of determining mechanical properties.

5.4 Preparation of test pieces:

Coupler shall be assembled and prepared according to installation instruction.

Rebar shall be sufficiently long to ensure a free length between the grips of the testing machine.

5.4 Testing (BS 8110-1 Clause 3.12.8.16.2)

No.	Testing	Definition	Criteria	
1	Tensile strength (Rm)	Stress corresponding to the maximum force (Fm)	Should exceed :	
			Grade	Tension
			250	287.5N/mm²
			500 A	525N/mm²
			500 B	540 N/mm²
2	Permanent Elongation	Increase in the original length	Should not exceed 0.1mm	

**Coupler with length >300mm, bars with a diameter > 40mm, a greater slip than 0.1mm may accepted - ISO 15835-1; 2009 clause 5.3.2*

5.5 Testing result

Speciment ref:	
Nominal diameter, d(mm)	
Effective cross sectional area (mm²)	
Load kN @ $0.6f_y$	
Max Load, kN	
Tensile Strength N/mm² (Rm)	
Permanent Elongation After Loading to $0.6f_y$ (mm)	
Location of fracture