Mandate M/115

MANDATE TO CEN/CENELEC

CONCERNING THE EXECUTION OF STANDARDISATION WORK

FOR HARMONIZED STANDARDS ON

REINFORCING AND PRESTRESSING STEEL (FOR CONCRETE)

RELATED TO THE FOLLOWING END USES

01/33 : FLOOR BEDS (including suspended ground floors), ROADS AND OTHER TRAFFICKED AREAS
02/33 : FOUNDATIONS AND RETAINING WALLS
03/33 : PILE FOUNDATIONS
04/33 : EXTERNAL WALLS (INCLUDING CLADDING), INTERNAL WALLS AND PARTITIONS
05/33 : FLOORS , GALLERIES, CEILING
06/33 : PREFABRICATED SYSTEMS FOR FLOORS AND GALLERIES, STAIRS, RAMPS, RAISED ACCESS FLOORS, BALLUSTRADES AND HAND RAILS, INCLUDING EXTERNAL WORKS07/33 : ROOFS
08/33 : FRAME (INCLUDING CHIMNEYS AND SHAFTS)
13/33 : FLOORS AND STAIR FINISHES
18/33 : DRAINAGE AND DISPOSAL OF OTHER LIQUIDS AND GASEOUS WASTE
26/33 : COMMUNICATION
30/33 : CIRCULATION FIXTURES
33/33 : STORAGE FIXTURES

ANNEX 1

REINFORCING AND PRESTRESSING STEEL (FOR CONCRETE)

TO BE USED IN :

01/33 : FLOOR BEDS (including suspended ground floors), ROADS AND OTHER TRAFFICKED AREAS
02/33 : FOUNDATIONS AND RETAINING WALLS
03/33 : PILE FOUNDATIONS
04/33 : EXTERNAL WALLS (INCLUDING CLADDING), INTERNAL WALLS AND PARTITIONS
05/33 : FLOORS , GALLERIES, CEILING
06/33 : PREFABRICATED SYSTEMS FOR FLOORS AND GALLERIES, STAIRS, RAMPS, RAISED ACCESS FLOORS, BALLUSTRADES AND HAND RAILS, INCLUDING EXTERNAL WORKS
07/33 : ROOFS
08/33 : FRAME (INCLUDING CHIMNEYS AND SHAFTS)
13/33 : FLOORS AND STAIR FINISHES
18/33 : DRAINAGE AND DISPOSAL OF OTHER LIQUIDS AND GASEOUS WASTE
26/33 : COMMUNICATION
30/33 : CIRCULATION FIXTURES
33/33 : STORAGE FIXTURES

FORM	MATERIALS	PRODUCTS FOR CONSIDERATION

bars, wires, rod, latice girders, welded fabrics strand, wires, bars pipes, flexible sheets	non alloyed or alloyed steel stainless steel zinc coated steel epoxy coated steel galvanized steel non alloyed or alloyed steel plastics, steel	**Reinforcing steel for concrete.:** **- wires, bars, rods, coils** **- welded fabric** **- indented strips** **- lattice girders** **Prestressing steel,** **- wires, stands, bars,** **- prestressing cables** **Ducts and sheaths**

ANNEX 2

TECHNICALS TERMS OF REFERENCE

REINFORCING AND PRESTRESSING STEEL (FOR CONCRETE)

TO BE USED IN :

01/33 : FLOOR BEDS (including suspended ground floors), ROADS AND OTHER TRAFFICKED AREAS
02/33 : FOUNDATIONS AND RETAINING WALLS
03/33 : PILE FOUNDATIONS
04/33 : EXTERNAL WALLS (INCLUDING CLADDING), INTERNAL WALLS AND PARTITIONS
05/33 : FLOORS , GALLERIES, CEILING
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07/33 : ROOFS
08/33 : FRAME (INCLUDING CHIMNEYS AND SHAFTS)
13/33 : FLOORS AND STAIR FINISHES
18/33 : DRAINAGE AND DISPOSAL OF OTHER LIQUIDS AND GASEOUS WASTE
26/33 : COMMUNICATION
30/33 : CIRCULATION FIXTURES
33/33 : STORAGE FIXTURES

FAMILY AND SUB-FAMILIES
REINFORCING STEEL PRODUCTS **Steel products (ribbed, plain or indented) used for the reinforcement of concrete :** **- bars,** **- rods, coils** **- welded fabrics** **- lattice girder** **- indented strips**

E R	**PERFORMANCE CHARACTERISTIC**	**Durability**
1	**- Elongation** **- Weldability** **- Sections and tolerances on sizes** **- Bendability** **- Bonding strength** **- Stress ratio (maximum strength/tensile yield strength)** **- Tensile yield strength** **- Fatigue** *(not for welded fabric and lattice girder)*	Y *(against corrosion)*
2		
3		

4	
5	
6	

FAMILY AND SUB-FAMILIES
PRESTRESSING STEEL PRODUCTS **Steel products used for the prestressing of concrete :** **- wires (stress relieved cold drawn wires, smooth wires, indented wires)** **- strands (multi-wire strands, multi-wire compacted strands, indented and high bond strand)** **- bars (hot rolled and processed bars, threaded bars, ribbed or plane or smooth bars)** **- prestressing cables**

	COMMISSION PROPOSAL	
E R	**PERFORMANCE CHARACTERISTIC**	**Durability**
1	**- Stress ratio (ult. tens strength/tens. yield strength)**	
	- Tensile yield strength	
	- Deflected tensile strength (for strands)	
	- Elongation at maximum load	
	- relaxation	
	- Sections and tolerances on sizes	
	- Surface geometry	
	- Modulus of elasticity *(only for stainless steel products)*	
	- Fatigue	
2		
3		
4		
5		
6		

FAMILY AND SUB-FAMILIES
DUCTS AND SHEATHS for protection or guide of prestressing steel products

	COMMISSION PROPOSAL	
E R	**PERFORMANCE CHARACTERISTIC**	**Durability**
1	**-Watertightness**	**Y**
	- Flexural behaviour	
	- Lateral and tensile load resistance	
2		
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4		
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COMPREHENSIVE TABLE OF CHARACTERISTICS

REINFORCING AND PRESTRESSING STEEL PRODUCTS

E R	**Performance characteristics**	**Reinforcing steel products**	**Prestressing steel products**	**Ducts and sheaths**	**durability**
1	**- Elongation**	**Y**	**Y**	**Y**	**Y *(against corrosion for steel products)***
	- Weldability	**Y**	**Y**	**Y**	
	- Sections and tolerances on sizes	**Y**	**Y**	**Y**	
	- Bendability	**Y**	**Y**		
	- Bonding strength	**Y**	**Y**		
	Stress ratio (ult. tens	**Y**	**Y**		
	strength/tens. yield strength	**Y**	**Y**		

- Tensile yield strength	**Y**	**Y**
- Fatigue		**Y**
- Deflected tensile strength (for strands)		
- Elongation at maximum load		
- relaxation		
- Modulus of elasticity		
- Watertightness		
- Flexural behaviour		
- Lateral and tensile load resistance		
- surface geometry		
2		
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ANNEX 3

Product family :

Reinforcing and prestressing steel for concrete (1/3)

1. Levels and classes for product performances

For the time being, the differences specified in Article 3 (2) of the CPD, do not seem to give rise to the need of a classification system for products.
Further needs may be identified on the basis of differences specified in Article 3 (2) of the CPD, which are justified in conformity with Community law (IDs Clause 1.2.1). Where for such needs it is recognised that a classification of product performance is the means of expressing the range of requirement levels of the works, the Commission will give the appropriate guidance or will request CEN/CENELEC to make the appropriate proposal through a modification to this mandate.

2. Systems of attestation of conformity

For the product(s)and intended use(s) listed below, CEN/CENELEC are requested to specify the following system(s) of attestation of conformity in the relevant harmonised standard(s) :

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity system(s)
REINFORCING STEEL PRODUCTS : **- bars,** **- rods, coils** **- welded fabrics** **- lattice girder** **- indented strips**	**used for the reinforcement of concrete**		1+

System 1+: See CPD Annex III.2.(i), with audit-testing of samples taken at the factory.

3. Conditions to be applied by CEN on the specifications of the attestation of conformity system

3.1 The specification for the system should be such that it can be implemented even where performance does not need to be determined for a certain characteristic, because at least one Member State has no legal requirement at all for such characteristic [*see Article 2.1 of the CPD and, where applicable, clause 1.2.3 of the Interpretative Documents*]. In those cases the verification of such a characteristic must not be imposed on the manufacturer if he does not wish to declare the performance of the product in that respect.
3.2 For products under systems 1, regarding the initial type testing of the product [see Annex III.1.a) of the CPD], the task for the approved laboratory will be limited to the assesment of the following characteristics:

- Elongation

- Weldability

- Sections and tolerances on sizes

- Bendability

- Bonding strength

- Stress ratio (maximum strength/tensile yield strength)

- Tensile yield strength

- Fatigue *(not for welded fabric and lattice girder)*

3.3 For products under systems 1, for the continuous surveillance, assesment and approval of the factory production control [see Annex III.1.g) of the CPD],only parameters related to the following characteristics shall be of the interest of the approved body:

- Sections and tolerances on sizes

- Weldability

- Bonding strength

3.4 For the initial inspection of the factory and of the factory production control [see Annex III.1.f) of the CPD], parameters related to all the relevant characteristics shall be of the interest of the approved body.

Product family :

Reinforcing and prestressing steel for concrete (2/3)

1. Levels and classes for product performances

For the time being, the differences specified in Article 3 (2) of the CPD, do not seem to give rise to the need of a classification system for products.
Further needs may be identified on the basis of differences specified in Article 3 (2) of the CPD, which are justified in conformity with Community law (IDs Clause 1.2.1). Where for such needs it is recognised that a classification of product performance is the means of expressing the range of requirement levels of the works, the Commission will give the appropriate guidance or will request CEN/CENELEC to make the appropriate proposal through a modification to this mandate.

2. Systems of attestation of conformity

For the product(s)and intended use(s) listed below, CEN/CENELEC are requested to specify the following system(s) of attestation of conformity in the relevant harmonised standard(s) :

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity system(s)
PRESTRESSING STEEL PRODUCTS **- wires (stress relieved cold drawn wires, smooth wires, indented wires)** **- strands (multi-wire strands, multi-wire compacted strands, indented and high bond strand)** **- bars (hot rolled and processed bars, threaded bars, ribbed or plane or smooth bars)** **- prestressing cables**	**used for the prestressing of concrete**		1+

System 1+: See CPD Annex III.2.(i), with audit-testing of samples taken at the factory.

3. Conditions to be applied by CEN on the specifications of the attestation of conformity system

3.1 The specification for the system should be such that it can be implemented even where performance does not need to be determined for a certain characteristic, because at least one Member State has no legal requirement at all for such characteristic [*see Article 2.1 of the CPD and, where applicable, clause 1.2.3 of the Interpretative Documents*]. In those cases the verification of such a characteristic must not be imposed on the manufacturer if he does not wish to declare the performance of the product in that respect.
3.2 For products under systems 1, regarding the initial type testing of the product [see Annex III.1.a) of the CPD], the task for the approved laboratory will be limited to the assesment of the following characteristics:

- Stress ratio (maximum strength/tensile yield strength)

- Tensile yield strength

- Deflected tensile strength (for strands)

- Elongation at maximum load

- relaxation

- Sections and tolerances on sizes

- surface geometry

- Modulus of elasticity *(only for stainless steel products)*

- Fatigue

3.3 For products under systems 1, for the continuous surveillance, assesment and approval of the factory production control [see Annex III.1.g) of the CPD],only parameters related to the following characteristics shall be of the interest of the approved body:

- Sections and tolerances on sizes

- surface geometry

3.4 For the initial inspection of the factory and of the factory production control [see Annex III.1.f) of the CPD], parameters related to all the relevant characteristics shall be of the interest of the approved body.

Product family :

Reinforcing and prestressing steel for concrete (3/3)

1. Levels and classes for product performances

For the time being, the differences specified in Article 3 (2) of the CPD, do not seem to give rise to the need of a classification system for products.
Further needs may be identified on the basis of differences specified in Article 3 (2) of the CPD, which are justified in conformity with Community law (IDs Clause 1.2.1). Where for such needs it is recognised that a classification of product performance is the means of expressing the range of requirement levels of the works, the Commission will give the appropriate guidance or will request CEN/CENELEC to make the appropriate proposal through a modification to this mandate.

2. Systems of attestation of conformity

For the product(s)and intended use(s) listed below, CEN/CENELEC are requested to specify the following system(s) of attestation of conformity in the relevant harmonised standard(s) :

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity system(s)
DUCTS AND SHEATHS	**for protection or guide of prestressing steel products**		4

System 4: See CPD Annex III.2.(ii), Third possibility

3. Conditions to be applied by CEN on the specifications of the attestation of conformity system

The specification for the system should be such that it can be implemented even where performance does not need to be determined for a certain characteristic, because at least one Member State has no legal requirement at all for such characteristic [*see Article 2.1 of the CPD and, where applicable, clause 1.2.3 of the Interpretative Documents*]. In those cases the verification of such a characteristic must not be imposed on the manufacturer if he does not wish to declare the performance of the product in that respect.

ANNEX 4

Reinforcing and prestressing steel for concrete

European Technical Specifications must be adopted taking into account the necessary legislation on substances classified as dangerous.
This results from the Interpretative Documents, where it is noted in the introduction note to all six Interpretative Documents, that :

> "Concerning dangerous substances which are in construction products, classes and/or levels of performance to which technical specifications will refer, shall allow the levels of protection needed by the works to be guaranteed, taking into account the purpose of the works."

In addition, outside the scope of the Directive, writers of technical specifications must take into account legislation which affects material to be used for construction products, and which are regulated for reasons not related to the incorporation into the works of the construction products.
In order to permit technical specifications writers to take into account the necessary legislation, a working document was elaborated by the Commission services (doc.CONSTRUCT 95/148 Rev.1 of January 4, 1996). Specification writers should use this document as a guide but must also take account of any other relevant legislation or dangerous substances which the working document does not yet include.

Notes :

(1) O.J N·C 62, 28.02.1994