



NSAI
Standards

Irish Standard
I.S. EN 523:2003

Steel strip sheaths for prestressing tendons - Terminology, requirements, quality control

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I.S. EN 523:2003

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Supersedes EN 523:1997

English version

**Steel strip sheaths for prestressing tendons - Terminology,
requirements, quality control**

Gaines en feuillard d'acier pour câbles de précontrainte -
Terminologie, prescriptions, contrôle de qualité

Hüllrohre aus Bandstahl für Spannglieder - Begriffe,
Anforderungen, Güteüberwachung

This European Standard was approved by CEN on 11 March 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



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EN 523:2003 (E)

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Foreword

This document EN 523:2003 has been prepared by Technical Committee CEN/TC 104 "Concrete and related products", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2004, and conflicting national standards shall be withdrawn at the latest by February 2004.

This document supersedes EN 523:1997.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

This European Standard applies together with the standards of the EN 524 series which comprises test methods for sheaths.

Annex A is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard is applicable to uncoated cylindrical steel sheaths with a corrugated profile and with a nominal internal diameter of up to 130 mm and their connectors (couplers) which are assembled to form ducts for prestressing tendons in post-tensioned prestressed concrete structures. It is only applicable to sheaths and connectors made of interlocked or welded steel strip¹⁾. It does not cover plastic sheaths²⁾.

The seals required between sheaths and couplers are not covered by this standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 524-1, *Steel strip sheaths for prestressing tendons — Test methods — Part 1: Determination of shape and dimensions*.

EN 524-2, *Steel strip sheaths for prestressing tendons — Test methods — Part 2: Determination of flexural behaviour*.

1) In case of coated or galvanised steel additional requirements should be considered, which are not covered by this standard. Additional requirements may conform to the relevant provisions in the place of use of the product.

2) For plastic sheaths, see annex A.

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EN 524-3, *Steel strip sheaths for prestressing tendons — Test methods — Part 3: To-and-fro bending test.*

EN 524-4, *Steel strip sheaths for prestressing tendons — Test methods — Part 4: Determination of lateral load resistance.*

EN 524-5, *Steel strip sheaths for prestressing tendons — Test methods — Part 5: Determination of tensile load resistance.*

EN 524-6, *Steel strip sheaths for prestressing tendons — Test methods — Part 6: Determination of leaktightness (Determination of water loss).*

EN 10139, *Cold rolled uncoated mild steel narrow strip for cold forming - Technical delivery conditions.*

ENV 13670-1, *Execution of concrete structures - Part 1: Common.*

ISO 6932, *Cold-reduced carbon steel strip with a maximum carbon content of 0,25 %.*

3 Terms and definitions

For the purpose of this European Standard the following terms and definition apply.

3.1

type of sheath

sheaths are designated by the manufacturer according to specific delivery form having certain features, e.g. production procedure (welded or interlocked), shape of profile, etc.

3.2

connectors (couplers)

connectors are specific devices to join sheath sections. They are usually made from cut ends of sheaths with the same profile type but with larger diameter (see 5.2)

3.3

stiffener

is an additional components whose purpose is to increase the lateral load strength of the sheaths at supporting points, e.g. semi-circular sheathing sections placed between supports and tendons

4 Classification

Sheaths are classified by the requirements as given in Table 1.

Category 1 (normal sheaths)

Category 2 (rigid sheaths)

5 Requirements

5.1 Sheaths

5.1.1 General requirements

Sheaths shall have sufficient resistance against the mechanical actions and environmental exposure during storage, transport and construction period. Sheaths are deemed to be resistant against:

- mechanical actions, if they fulfil the requirements of clause 5.1.5 to 5.1.8;
- environmental exposure, if the requirements of 5.1.2 and clause 7 are fulfilled and the measurements recommended for handling the sheaths on site in accordance with ENV 13670-1 are taken into account.

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