BRITISH STANDARD

BS EN
524-3 : 1997

Steel strip sheaths for prestressing tendons — Test methods

Part 3. To-and-fro bending test

The European Standard EN 524-3 : 1997 has the status of a British Standard

ICS 77.140.75; 91.080.40

National foreword

This British Standard is the English language version of EN 524-3 : 1997. The UK participation in its preparation was entrusted by Technical Committee B/525, Building and civil engineering structures, to Subcommittee B/525/2, Structural use of concrete, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled 'International Standards Correspondence Index', or by using the 'Find' facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, an EN title page, pages 2 to 4, an inside back cover and a back cover.

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EUROPEAN STANDARD
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EN 524-3

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ICS 77.140.75; 91.080.40

Descriptors: Prestressed concretes, tubes, sheathing, prestressing steels, classifications, specification, verification, marking

English version

Steel strip sheaths for prestressing tendons — Methods of test — Part 3: To-and-fro bending test

Gaines en feuillard d'acier pour câbles de précontrainte — Méthodes d'essai — Partie 3: Essai de flexion dans les deux sens

Hüllrohre aus Bandstahl für Spannglieder — Prüfverfahren — Teil 3: Hin-und Herbiegeversuch

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 104, Concrete (performance, production, placing and compliance criteria), the Secretariat of which is held by DIN.

This standard is a part of the series EN 524 *Sheaths for prestressing tendons — Test methods* which additionally comprises the following Parts

- Part 1 *Determination of shape and dimensions*
- Part 2 *Determination of flexural behaviour*
- Part 4 *Determination of lateral load resistance*
- Part 5 *Determination of tensile load resistance*
- Part 6 *Determination of leaktightness (Determination of water loss)*

These European standards apply to EN 523 *Steel strip sheaths for prestressing tendons — Terminology, requirements, quality control.*

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 September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

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

Contents

1 Scope

This European Standard lays down the procedure for determining the flexibility of sheaths for prestressing tendons which comply with EN 523.

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.

EN 523 : 1997	*Steel strip sheaths for prestressing tendons — Terminology, requirements, quality control*
EN 524-5	*Steel strip sheaths for prestressing tendons — Test methods — Part 5: Determination of tensile load resistance*

3 Apparatus

The test set-up (see figure 1) consists of a base in the centre of which a specimen of l = 1100 mm can be fixed in an upright position in such a way that it will offer sufficient bending.

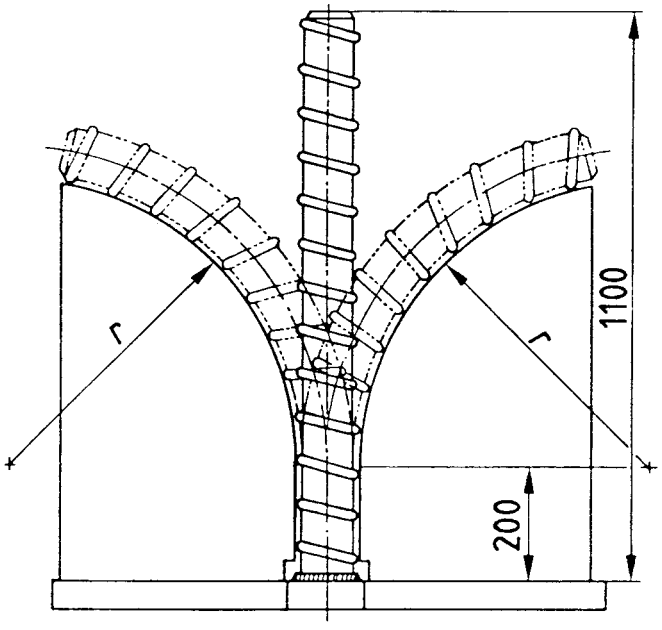
Two curved templates which allow horizontal shift of the templates in relation to the surface of the fixed sheath are placed perpendicular to the base.

The radius r of each bending template shall correspond to the values given in either line 3a, 3b or 3c of table 1 of EN 523 : 1997.

4 Procedure

The specimen shall be bent by hand to and fro twice around each curved section of the templates (see figure 1) over a length of 800 mm. For the sequence of bending see figure 2. The overall time in which the whole bending sequence is to be carried out shall not exceed 2 min but the specimen shall not strike the templates with an impact.

At the end of the bending procedure and with the test specimen in the final position, a steel plunger with the shape and the dimensions given in figure 3 shall be inserted and pass through the whole length of the specimen. Straightening of the specimen by means of the tensile load test in EN 524-5 is permitted.



Dimensions in millimetres

Figure 1. Test set-up for assessing flexibility (To-and-fro bending test)

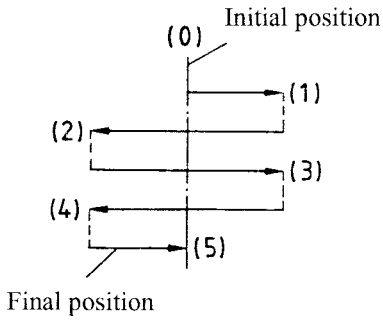
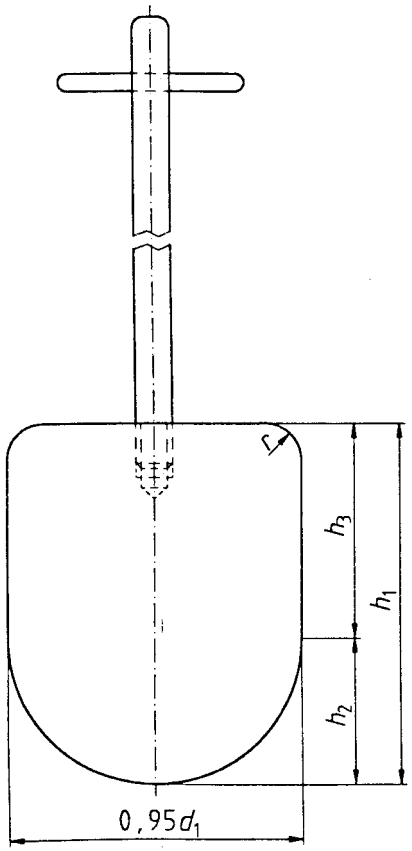


Figure 2. Sequence of bending



d_p = diameter of the plunger
d_1 = nominal internal diameter of the sheath
h_1 = 1,25d_p
h_2 = 0,5d_p
h_3 = 0,75d_p
r = 5 mm

Figure 3. Shape and dimensions of the steel plunger

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