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.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

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.

This British Standard, having been prepared under the direction of the Sector Board for Building and Civil Engineering, was published under the authority of the Standards Board and comes into effect on 15 November 1997

ISBN 0 580 28673 8

Amendments issued since publication

Amd. No.	Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 524-3

March 1997

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.

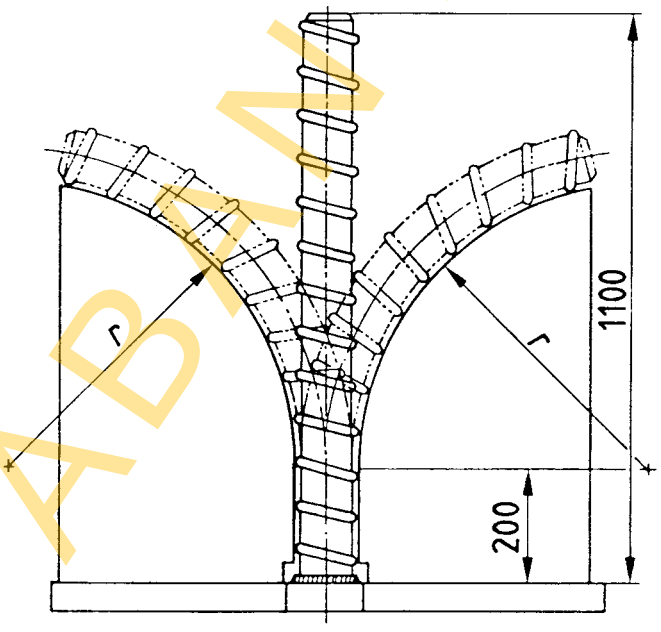
Two curved templates which allow horizontal shift of the templates in relation to the surface of the fixed sheath are placed perpendicular to the base.

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)

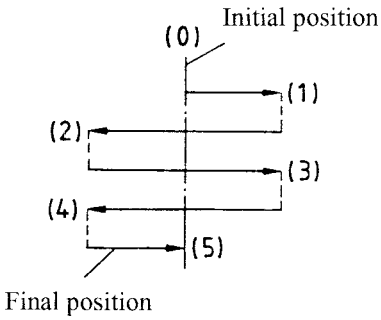
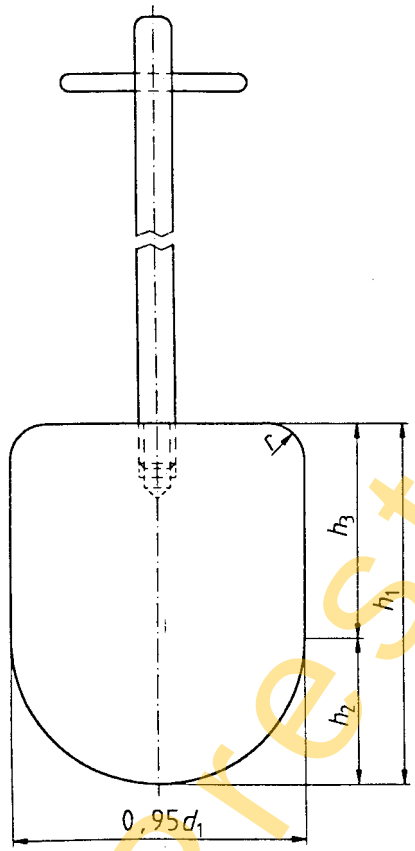


Figure 2. Sequence of bending



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

blank

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

Copyright

BSI
389 Chiswick High Road
London
W4 4AL