BRITISH STANDARD

BS EN
524-1 : 1997

Steel strip sheaths for prestressing tendons — Test methods

Part 1. Determination of shape and dimensions

The European Standard EN 524-1 : 1997 has the status of a British Standard

ICS 77.140.75; 91.080.40

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National foreword

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- 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.

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

English version

Steel strip sheaths for prestressing tendons — Test methods — Part 1: Determination of shape and dimensions

Gaines en feuillard d'acier pour câbles de précontrainte — Méthodes d'essai — Partie 1: Détermination de la forme et des dimensions

Hüllrohre aus Bandstahl für Spannglieder — Prüfverfahren — Teil 1: Ermittlung der Formen und Maße

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CEN

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

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

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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 2 *Determination of flexural behaviour*
- Part 3 *To-and-fro bending test*
- 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.

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Contents

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1 Scope

This European Standard specifies the procedure for determining the shape and dimensions 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 *Steel strip sheaths for prestressing tendons — Terminology, requirements, quality control*

3 Apparatus and accuracy

– A possible test device is shown in figure 2

– The procedure to determine the relative volume of profile (V_{rel}) shall allow for an accuracy of 5 %

– Vernier calliper (accuracy of 0,1 mm)

– Micrometer gauge (accuracy of 0,01 mm)

4 Internal diameter, height of profile and wall thickness of sheaths

The internal diameter, d_1, and the height of profile, h, shall be determined by means of a vernier calliper using the specimen described in clause **5**. Measurements shall be taken at both ends of the specimen in two directions at right angles to one another (see figure 1) before the specimen is sealed. The mean values shall be calculated from the values obtained.

The wall thickness shall be measured by a micrometer gauge at least at four different points.

5 Relative volume of profile

A test specimen with a length of at least l = 500 mm[1)] shall be sealed at one end so that it is watertight. The total volume V_{tot} of the hollow space inside the specimen shall be determined by filling the specimen with water and then measuring the content (see figure 2). The volume V_{ref} and the surface area A_{ref} of the reference cylinder shall be calculated from the mean internal diameter d_1 as described in clause **4** and the length l of the test specimen. The relative volume of the profile (V_{rel}) measured in cm^3/cm^2 is calculated using the following equation:

$$V_{rel} = \frac{V_{tot} - V_{ref}}{A_{ref}}$$

where

A_{ref} ($= \pi \times d_1 \times l$) is the surface area of the reference cylinder (in cm^2);

V_{ref} is the volume of the reference cylinder (in cm^3);

V_{tot} is the volume of water in the specimen (in cm^3).

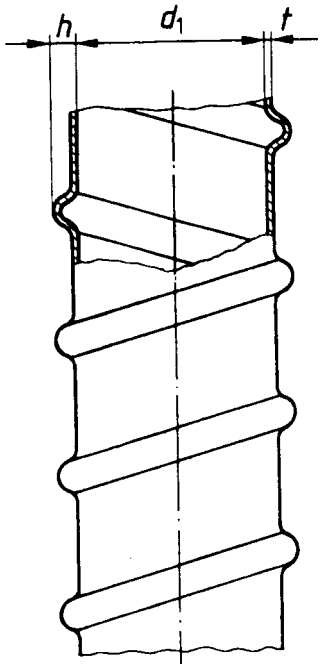

Figure 1. Internal diameter, height of profile and wall thickness of sheaths

1) It is recommended that the specimen length chosen is such that the specimen can be used for the other test.

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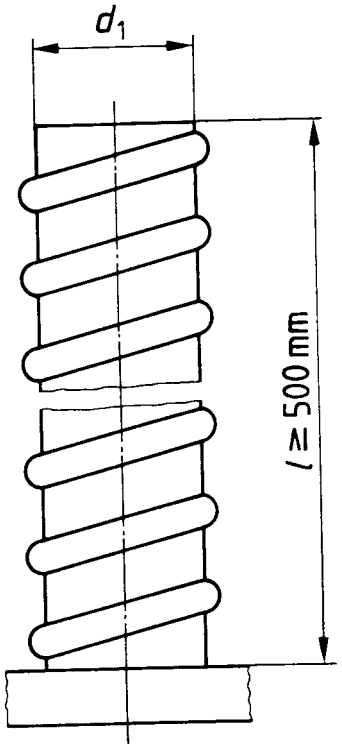

Figure 2. Test set-up for determining the total volume

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