

**Slang av gummi och plast – Bestämning av
vidhäftning mellan komponenter**
(ISO 8033:2006)

**Rubber and plastics hoses – Determination of
adhesion between components**
(ISO 8033:2006)

Europastandarden EN ISO 8033:2006 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 8033:2006.

Denna standard ersätter SS-ISO 8033, utgåva 2 och SS-EN 28033, utgåva 1.

The European Standard EN ISO 8033:2006 has the status of a Swedish Standard. This document contains the official English version of EN ISO 8033:2006.

This standard supersedes the Swedish Standard SS-ISO 8033, edition 2 och SS-EN 28033, edition 1

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Rubber and plastics hoses - Determination of adhesion between components (ISO 8033:2006)

Tuyaux en caoutchouc et en plastique - Détermination de l'adhérence entre éléments (ISO 8033:2006)

Gummi- und Kunststoffschlauch - Bestimmung der Haftung zwischen den einzelnen Schichten (ISO 8033:2006)

This European Standard was approved by CEN on 14 July 2006.

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Foreword

This document (EN ISO 8033:2006) has been prepared by Technical Committee ISO/TC 45 "Rubber and rubber products" in collaboration with Technical Committee CEN/TC 218 "Rubber and plastics hoses and hose assemblies", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by January 2007, and conflicting national standards shall be withdrawn at the latest by January 2007.

This document supersedes EN 28033:1993.

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

Endorsement notice

The text of ISO 8033:2006 has been approved by CEN as EN ISO 8033:2006 without any modifications.

Rubber and plastics hoses — Determination of adhesion between components

1 Scope

Adequate adhesion between the various components of a hose is essential if it is to perform satisfactorily in service. This International Standard specifies methods for the determination of the adhesion between lining and reinforcement, between cover and reinforcement, between reinforcement layers, between cover and outer lamination (thin layer of material outside the cover for protection) and between lining and inner lamination (thin layer of material inside the lining to reduce permeation of fluid into the lining). It covers all bore sizes and the following types of hose construction:

- woven textile fabric;
- braided textile fabric;
- knitted textile fabric;
- circular-woven textile fabric;
- textile spiral;
- textile cord;
- wire braid;
- wire spiral;
- hoses containing a supporting helix.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5893:2002, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification*

ISO 6133, *Rubber and plastics — Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

EN ISO 8033:2006 (E)

3 Principle

Using test pieces of standard dimensions, the adhesion strength between lining and reinforcement, between cover and reinforcement, between reinforcement layers, between cover and outer lamination and between lining and inner lamination is measured under specified conditions.

4 Apparatus

A test machine having the following characteristics is required:

4.1 Test machine

The machine shall be power driven, equipped with a suitable dynamometer, capable of maintaining a substantially constant rate of traverse of the moving head during the test and fitted with an autographic recorder. It shall comply with the requirements for class 0,5 or 1 of ISO 5893:2002.

An inertialess dynamometer shall be used.

4.2 Grips

The grips shall be capable of holding the test piece without slippage.

Self-tightening grips are recommended.

For strip test pieces, provision shall be made to maintain the strip in the appropriate plane of the grips during the test, for example by attaching sufficient weights to the free end of the test piece or by fitting a supporting plate, coated with a low-friction material such as polytetrafluoroethylene (PTFE), to the non-driven grip.

4.3 Mandrel

For testing ring test pieces (type 6 and type 8), a mandrel shall be provided that is a close sliding fit in the test piece. This mandrel shall be capable of being fitted into the driven head of the machine so that it will rotate freely during the test.

5 Test pieces

5.1 Types of test piece

5.1.1 General

Eight types of test piece are specified to cover the range of hose constructions and bore sizes normally encountered (see Figures 1 to 8).

5.1.2 Type 1

Strip, cut from the hose as a 25 mm \pm 0,5 mm wide ring which is then cut transversely to form a strip.

5.1.3 Type 2

Strip, 160 mm \times half the hose circumference.

5.1.4 Type 3

Strip, cut from the hose as a 35 mm \pm 2 mm wide ring which is then cut transversely to form a strip.