International Standard 6123/2

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Rubber or plastics covered rollers — Specifications — Part 2 : Classification of surface characteristics

Cylindres revêtus de caoutchouc ou de plastique — Spécifications — Partie 2 : Classification des caractéristiques de surface

First edition — 1983-09-01

UDC 678.06 : 62-434 : 678.029.7 **Ref. No. ISO 6123/2-1983 (E)**

Descriptors : rubber products, plastics products, cores, covering, surface treatment, surface properties, classification.

Price based on 2 pages

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6123/2 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products*, and was circulated to the member bodies in June 1982.

It has been approved by the member bodies of the following countries:

Belgium	India	Spain
Canada	Indonesia	Sri Lanka
China	Italy	Sweden
Czechoslovakia	Korea, Rep. of	Thailand
Denmark	Netherlands	Turkey
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The member bodies of the following countries expressed disapproval of the document on technical grounds :

Australia
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United Kingdom

Printed in Switzerland

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0 Introduction

Covered rollers are cylindrical cores, generally of metal, with a cover of rubber or plastics for a particular use. They are manufactured in a wide variety of sizes and hardness grades depending on the intended use.

ISO 6123 at present consists of the following parts :

Part 1 : Requirements for hardness.

Part 2 : Classification of surface characteristics.

Dimensional tolerances will form the subject of ISO 6123/3.

1 Scope and field of application

This part of ISO 6123 establishes a classification of rubber or plastics covered rollers according to surface quality or imperfections and surface finish or roughness.

2 Surface quality

2.1 General

The manufacturing process and the raw materials used in the manufacture of rubber or plastics covered rollers may cause sporadic imperfections, in the form of holes and foreign matter, in the surface of the roller covers. The number, size, and location of permissible surface imperfections shall be agreed between the interested parties.

The type of surface finish (see clause 3) shall be observed when selecting the grade of imperfections.

2.2 Grades

The rollers may be graded according to the permissible numbers and sizes of imperfections as follows :

Grade x/y

This means that :

Imperfections up to x mm^2 in area are acceptable.

Not more than two imperfections each having an area between x mm^2 and y mm^2 are permissible in any 0,1 m^2 of cover area.

Roller covers showing imperfections larger than y mm^2 in area shall be rejected.

The values of x and y shall be agreed between the interested parties.

If no requirements for surface quality are necessary, the rollers shall be designated "grade 0".

Example : A medium grade of surface quality can be described by the designation :

Grade 0,5/2

This means that :

Imperfections up to 0,5 mm^2 in area are acceptable.

Not more than two imperfections each having an area between 0,5 mm^2 and 2 mm^2 are permissible in any 0,1 m^2 of cover area.

Roller covers showing imperfections larger than 2 mm^2 in area shall be rejected.

NOTE — If agreement between the interested parties, or special provisions in national standards, are intended, the required quality should be chosen from the grades given below :

grade 0,1/0,3
grade 0,3/1
grade 0,5/2
grade 2/5
grade 5/10
grade 0

3 Surface finish

3.1 Methods of surface treatment — Terms and classification

The surface finish of a roller cover is dictated by the intended use. The table shows the generally employed principal methods of surface treatment, by means of which the roller surfaces are classified (see 3.2). The type of surface finish, and the structure or texture which can be achieved, is dependent upon the hardness and composition of the roller cover.

Table

Type	Surface treatment	
1	Polishing	Sequence of treatment ↑
2	Grinding, fine	
3	Grinding, standard	
4	Turning	
5	Unground finish	

3.2 Description by surface treatment — Types

The surface structures described for types 1 to 4 are produced by regular treatments and have a roughness without preferential direction.

The type required shall be chosen by agreement between the interested parties.

3.2.1 Type 1 — Polished finish

In soft elastomers, the surface is velvet-like; in hard rubber (ebonite) or plastics, it is smooth.

Grinding marks and scratches shall not be visible to the naked eye. Sporadic grinding blemishes are permissible.

Not all qualities permit this finish.

3.2.2 Type 2 — Fine grinding finish

For this type, slight grinding and feed marks are visible to the naked eye, but are not noticeable when touching the roller.

3.2.3 Type 3 — Standard grinding finish

For this type, grinding marks and grinding feed are visible and just noticeable when touching the roller.

3.2.4 Type 4 — Turned finish

For this type, the surface is solely turned with as little feed of the turning tool as practicable. Turning grooves are visible and noticeable when touching the roller.

3.2.5 Type 5 — Unground finish

For this type, the surface structure of the rollers is without any surface treatment or dressing, for example a cloth marked roller surface as it comes from the vulcanization process or a rough cast plastics covered roller.

3.2.6 Type S — Special treatment

This type applies to surface finishes other than those in 3.2.1 to 3.2.5, for example to a fine cast plastics covered roller, or to a finish for specific applications with special structure as defined by agreement between the interested parties.

3.3 Description by surface roughness

In preparation.