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IS 3755 (1966): Specification for Emery Fillets [PGD 9: Abrasives]



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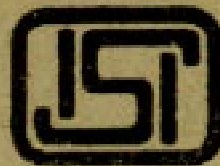
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Indian Standard
SPECIFICATION FOR
EMERY FILLETS

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INDIAN STANDARDS INSTITUTION

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

NEW DELHI 110002

Indian Standard

SPECIFICATION FOR EMERY FILLETS

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Indian Standard
SPECIFICATION FOR
EMERY FILLETS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 November 1966, after the draft finalized by the Abrasives Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 Emery fillets are used by the textile industry for grinding the carding cloth.

0.3 Since it has been found that grooved fillets are much superior to fillets without grooves, this specification covers the requirements of grooved fillets.

0.4 For the climatic conditions prevailing in India, that is, high temperatures and humidity, glue bond fillets are found unsuitable and as such this specification specifies the use of synthetic resins only.

0.5 This specification covers the requirements of emery fillets used for grinding ordinary card clothing and aluminium oxide fillets used for grinding extra hardened card clothing.

0.6 As fillets are used in standard widths of 25.4 mm and 38.0 mm, this standard covers only these two widths.

0.7 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers the requirements for grooved emery fillets in the form of rolls using woven tapes as backing, and emery or synthetic aluminium oxide as abrasive.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

*Rules for rounding off numerical values (*revised*).

2.1 **Roll** — A length of 32 m of the fillet in the specified width.

2.2 **Grit** — Number indicating the size of the abrasive grains.

3. ABRASIVE MATERIALS

3.1 **Emery** — Emery shall be of natural or synthetic quality and shall comply with the requirements given in Table 1. Corundum as specified in Table 1 may be used in place of emery.

TABLE 1 REQUIREMENTS OF ABRASIVE MATERIAL

MATERIAL	SPECIFIC GRAVITY	HARDNESS ON MOR'S SCALE	ALUMINIUM OXIDE CONTENT (AS Al_2O_3), PERCENT
	<i>Min</i>	<i>Min</i>	<i>Min</i>
Emery (natural)	3.80	8	60
Emery (synthetic)	3.60	8	60
Corundum	3.90	9	90
Synthetic aluminium oxide	3.90	9.2	95

3.2 **Synthetic Aluminium Oxide** — This shall be of the best quality and shall be free from extraneous materials. It shall comply with the requirements as given in Table 1.

3.3 The fineness of abrasive grains shall conform to the limits as specified in IS : 715-1966*.

4. BACKING

4.1 The backing shall be woven tapes with fray proof edges, made of cotton or flax, in widths of 25.4 mm and 38.0 mm. It shall be of such quality that in the finished state it shall have sufficient flexibility and shall satisfy the minimum breaking strength requirements.

4.2 The breaking strength and the elongation of the finished product, when determined on a test piece of 200 mm length in respective widths of 25.4 mm and 38.0 mm in accordance with IS : 1969-1961†, shall be as follows:

<i>Width</i>	<i>Breaking Strength,</i>	<i>Elongation,</i>
	<i>Min</i> kgf	<i>Max</i> mm
25.4 mm	80	10
38.0 mm	100	10

*Specification for coated abrasives, glue bond (*second revision*). (Since revised).

†Method for determination of breaking load and elongation at break of woven fabric (by constant-rate-of-traverse machine). (Since revised).

5. ADHESIVE

5.1 The adhesive shall be of good quality synthetic resin suitably plasticized so that the finished product does not show any brittleness in the high humidity conditions that prevail in textile mills.

6. FORM AND DIMENSIONS

6.1 The fillets shall be supplied in the form of rolls of 32 m length. The width shall be 25.4 mm or 38.0 mm.

6.2 The tolerance in width for both 25.4-mm and 38.0-mm fillets shall be ± 1.5 mm.

6.3 The dimensions of grooves of emery fillets shall be as follows:

Width of groove	1 to 1.1 mm
Depth of groove	0.9 to 1.0 mm
Distance between grooves	1 mm

7. SAMPLING

7.1 The sampling shall be done in accordance with IS : 2817-1965*.

8. TESTING

8.1 The emery fillet of suitable length shall be kept at a temperature of $27^{\circ} \pm 2^{\circ}\text{C}$ and relative humidity of 65 ± 5 percent for a minimum period of six hours. It shall then be bent slowly around a bar of 170 mm diameter, through an angle of 180° , with the abrasive side facing upwards as shown in Fig. 1. The cracks developed, if any, on the abrasive surface shall not be more than the thickness of emery fillet under test.

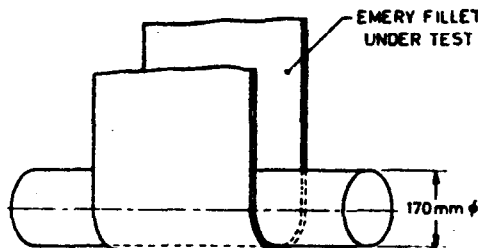


FIG. 1 TESTING OF EMERY FILLETS

*Methods for sampling of coated abrasives.

9. MARKING

9.1 Each roll shall be marked with the following information:

- a) Manufacturer's name or trade-mark,
- b) Grit number,
- c) Abrasive material used, and
- d) Manufacturing date or code number.

9.1.1 The roll may also be marked with the ISI Certification Mark.

Note — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

10. PACKING

10.1 Each roll shall be wrapped with kraft paper and with a moistureproof material on top.

10.2 For despatch by steamer, rail, etc, rolls packed as specified in **10.1** shall be packed in wooden crates with waterproof gunny or paper wrapping.



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