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Indian Standard
SPECIFICATION FOR
METALLIC CARD CLOTHING
PART III WIRE FOR CYLINDER, DOFFER AND LICKER-IN

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SPECIFICATION FOR
METALLIC CARD CLOTHING

PART III WIRES FOR CYLINDER, DOFFER AND LICKER-IN

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FOREWORD

0.1 This Indian Standard (Part III) was adopted by the Indian Standards Institution on 10 March 1982, after the draft finalized by the Spinning Machinery (Cotton System) Sectional Committee had been approved by the Textile Division Council.

0.2 During processing of cotton for spinning, carding quality is critically influenced by the characteristics of metallic card clothing. This standard specifies the requirements of the same which govern the quality of carding.

0.3 This standard (Part III) forms part of the series of standards on metallic card clothing. Part I of the standard covers terminology and Part II covers requirements for bead wires.

0.4 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 the 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 (Part III) specifies the requirements for metallic card clothing used on cylinder, doffer and licker-in of cards.

2. RAW MATERIAL

2.1 The metallic card clothing shall be made of carbon steel or any other suitable steel wire as agreed to between the buyer and the seller.

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

3.1 The teeth of metallic wire shall have a smooth finish. The wire shall be free from manufacturing defects like missing/broken teeth, burrs and rust stains.

4. FLEXIBILITY

4.1 The flexibility of the metallic wire shall be tested by wrapping it over a cylinder of 125 mm diameter. The wire shall not show any sign of cracking, breaking or splitting.

5. DIMENSIONS

5.1 The dimensions of metallic card clothing wire shall conform to the manufacturer's specifications or drawings as agreed to between the buyer and the seller. The declared dimensions shall be subject to the tolerances given in Table 1.

<table>
<thead>
<tr>
<th>Wire</th>
<th>Pitch (1)</th>
<th>Angle of Teeth (2)</th>
<th>Height of Teeth (3)</th>
<th>Thickness at Base (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder wire</td>
<td>± 0.05 mm</td>
<td>± 0°30'</td>
<td>± 0.03 mm</td>
<td>± 0.02 mm</td>
</tr>
<tr>
<td>Doffer wire</td>
<td>± 0.05 mm</td>
<td>± 0°30'</td>
<td>± 0.03 mm</td>
<td>± 0.02 mm</td>
</tr>
<tr>
<td>Licker-in wire</td>
<td>± 0.1 mm</td>
<td>± 0°30'</td>
<td>± 0.03 mm</td>
<td>± 0.05 mm</td>
</tr>
</tbody>
</table>

6. HARDNESS

6.1 Hardness at the tip of the wire up to a depth of 30 percent of tooth height shall not be (a) below HV 650 in case of cylinder and doffer wire and (b) below HV 550 in case of licker-in wire.

6.1.1 The Vickers hardness shall be determined by the method prescribed in IS : 1501-1968*.

7. PACKING

7.1 The metallic wire shall be coated with anti-rust coating and wound on spools with a layer of suitable paper in between the layers of wires. The spools shall be suitably packed in cases which can withstand normal hazards of transport, storage and handling.

7.2 Each spool of wire shall bear the following information:
   a) Manufacturer’s name, initials or trade-mark, if any; and
   b) Type of wire.

7.2.1 The wires 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.

8. SAMPLING

8.1 **Lot** — The rolls of wire of same dimensions manufactured from same material and
   under essentially similar conditions and delivered to a buyer against one despatch note
   shall constitute a lot.

8.2 The conformity of the lot to the requirements of this standard shall be determined on the basis of
   the tests carried out on the samples selected from it.

8.3 Unless otherwise agreed to between the buyer and the seller, the number of rolls to be selected
   at random shall be in accordance with Table 2.

<table>
<thead>
<tr>
<th>Lot Size in Rolls</th>
<th>Sample Size in Rolls</th>
<th>Permissible Number of Defective Rolls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 50</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>51 - 100</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>101 - 150</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>151 - 300</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>301 and above</td>
<td>32</td>
<td>1</td>
</tr>
</tbody>
</table>

8.4 Two test samples shall be taken from each sample roll and tested for finish, dimensions and hardness.
8.5 Five samples of six metre each shall be drawn from five different rolls and tested for flexibility.

8.6 **Criteria for Conformity** — The lot shall be considered conforming to the requirements of this standard if the following conditions are satisfied:

a) The number of rolls failing to satisfy any one or more of the characteristics mentioned in 8.4 does not exceed the corresponding number given in col 3 of Table 2, and

b) All the rolls satisfy the requirement mentioned in 8.5.