



**PRODUCT MANUAL FOR  
ADHESIVES FOR USE WITH CERAMIC,  
MOSAIC AND STONE TILES  
ACCORDING TO IS 15477 : 2019**

*This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.*

|    |   |   |  |
|----|---|---|--|
| 1. | <b>Product</b>  | :   | IS 15477 : 2019  |
|    | <b>Title</b>  | :   | ADHESIVES FOR USE WITH CERAMIC, MOSAIC AND STONE TILES |
|    | <b>No. of Amendments</b>  | :   | NIL  |
| 2. | <b>Sampling Guidelines:</b>   |   |  |
| a) | <b>Raw material</b>   | :   | -  |
| b) | <b>Grouping guidelines</b>  | :   | Please refer <a href="#">ANNEX – A</a>                 |
| c) | <b>Sample Size</b>  | :   | 25 kg for all tests                                    |
| 3. | <b>List of Test Equipment</b>   | :   | Please refer <a href="#">ANNEX – B</a>                 |
| 4. | <b>Scheme of Inspection and Testing</b>   | :   | Please refer <a href="#">ANNEX – C</a>                 |
| 5. | <b>Possible tests in a day :</b>  |   |  |
|    | (i) Open time (Clause 5.3)  |   |  |
|    | (ii) Adjustment time (Clause 5.4)   |   |  |
|    | (iii) Slip (Clause 5.5)   |   |  |
| 6. | <b>Scope of the Licence :</b>   |   |  |
|    | “Licence is granted to use Standard Mark as per IS 15477 : 2019 with the following scope: |   |  |
|    | Name of the product   | ADHESIVES FOR USE WITH CERAMIC, MOSAIC AND STONE TILES                        |  |
|    | Type  | Type 1 / Type 2/Type 3/ Type 4 / Type 5                                       |  |
|    | Application   | (i) Intended for vertical application<br>(ii) Other than Vertical application |  |
|    | Slip resistance (If applicable)   | T   |  |
|    | Deformability classification (As applicable)  | S1/S2   |  |

**ANNEX- A**

**GROUPING GUIDELINES**

1. IS 15477 : 2019 covers adhesives for use with Ceramic, Mosaic and Stone Tiles, which are classified as given below:
  - a) Type - Type 1 / Type 2/Type 3/ Type 4 / Type 5
  - b) Based on method of application – Intended for vertical application /  
Other than vertical application
    - i) Slip Resistance – T
    - ii) Deformability – Deformable adhesive –S1  
High deformable adhesive – S2
2. Considering the above, following grouping guidelines is developed for GoL/CSoL :
  - a) Sample of each type of adhesive for each method of application shall be tested for all requirements to cover that variety of adhesive in the scope of the licence.
  - b) Separate sample of Deformable adhesive (S1) and High deformable adhesive (S2) shall be tested to cover that particular variety in the scope of the licence.
  - c) If sample tested is intended for vertical application, variety other than vertical application may also be covered in the scope of the licence.
3. The Firm shall declare the various varieties of adhesives they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of the Licence, BO shall ensure that all the Varieties covered in the Licence are tested in rotation to the extent possible.

**ANNEX B****List of Test Equipment***Major test equipment required to test as per the Indian Standard*

| <b>Sl No.</b> | <b>Tests used in with Clause Reference</b> | <b>Test Equipment</b>  |
|---------------|--|--|
| 1             | Tensile adhesion strength (Clause 5.1)     | <ul style="list-style-type: none"> <li>- As per clause A-1, Annex A of IS 15477 : 2019</li> <li>- Tile cutter</li> <li>- Steel scale/Vernier caliper</li> <li>- Micrometre</li> <li>- Weighing balance</li> <li>- Stop watch</li> <li>- Straight edge trowel</li> <li>- Water bath with temperature controller to maintain temperature of <math>27 \pm 2</math> °C</li> <li>- Jig levelling tiles and test unit holder</li> <li>- Suitable arrangement for holding substrate during testing</li> <li>- Thermometer</li> <li>- Hygrometer</li> <li>- Air conditioner and humidifier to maintain temperature of <math>27 \pm 2</math> °C and humidity <math>65 \pm 5</math> %</li> </ul> |
| 2             | Shear adhesion strength (Clause 5.2)       | <ul style="list-style-type: none"> <li>- As per clause B-1, Annex B of IS 15477 : 2019</li> <li>- Tile cutter</li> <li>- Steel scale/Vernier caliper</li> <li>- Micrometre</li> <li>- Weighing balance</li> <li>- Stop watch</li> <li>- Straight edge trowel</li> <li>- Water bath with temperature controller to maintain temperature of <math>27 \pm 2</math> °C</li> <li>- Thermometer</li> <li>- Hygrometer</li> <li>- Air conditioner and humidifier to maintain temperature of <math>27 \pm 2</math> °C and humidity <math>65 \pm 5</math> %</li> </ul>  |

|   |   |   |
|---|---|---|
| 3 | Open time (Clause 5.3)  | <ul style="list-style-type: none"> <li>- Square notched trowel</li> <li>- Tile cutter</li> <li>- Micrometre</li> <li>- Steel scale / Vernier caliper</li> </ul>   |
| 4 | Adjustment Time (Clause 5.4)  | <ul style="list-style-type: none"> <li>- Weight of 2 kg</li> <li>- Stop watch</li> <li>- Chipboard</li> <li>- Gypsum board</li> <li>- Protractor</li> </ul>   |
| 5 | Slip (Required for Vertical Application only)<br>(Clause 5.5)       | <ul style="list-style-type: none"> <li>- As per clause E-1, Annex E of IS 15477 : 2019</li> <li>- Tile cutter</li> <li>- Micrometre</li> <li>- Steel straight edge</li> <li>- Stop watch</li> <li>- Protractor</li> </ul> |
| 6 | Deformability (Required for Vertical Application only) (Clause 5.6) | <ul style="list-style-type: none"> <li>- As per clause F-1, Annex F of IS 15477 : 2019</li> </ul>   |
| 7 | Conditioning (Clause 6)   | <ul style="list-style-type: none"> <li>- Air conditioner and humidifier to maintain temperature of <math>27 \pm 2</math> °C and humidity <math>65 \pm 5</math> %</li> </ul>   |

*The above list is indicative only and may not be treated as exhaustive.*

**ANNEX C**

**Scheme of Inspection and Testing**

**1. LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

**1.1** The manufacturer shall prepare a calibration plan for the test equipment.

**2. TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.

**3. LABELLING AND MARKING** – As per the requirements of IS 15477: 2019

**4. CONTROL UNIT** – The entire quantity of adhesive of the same Type manufactured at a time in one ball mill from same consignment of raw material shall constitute a control unit.

**5. LEVELS OF CONTROL** - The tests as indicated in column 1 of [Table 1](#) and the levels of control in column 3 of [Table 1](#), shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

**5.1** All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

**6. REJECTIONS** – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

**TABLE 1**

| <b>(1)</b>          |                           |                |           | <b>(2)</b>  | <b>(3)</b>               |   |  |
|---------------------|---------------------------|----------------|-----------|---|--------------------------|---|--|
| <b>Test Details</b> |                           |                |           | <b>Test equipment requirement</b><br>R: required (or)<br>S: Sub-contracting permitted | <b>Levels of Control</b> |   |  |
| Cl.                 | Requirement               | Test Methods   |           |   | No. of Sample            | Frequency   | Remarks  |
|                     |                           | Clause         | Reference |   |                          |   |  |
| 5.1                 | Tensile adhesion strength | 5.1<br>Annex A | IS 15477  | S   | One                      | Once in two months for each type of adhesive  | Additional sample shall be tested whenever source of raw material or composition changes |
| 5.2                 | Shear adhesion strength   | 5.2<br>Annex B | IS 15477  | S   | One                      | Once in two months for each type of adhesive  |  |
| 5.3                 | Open time                 | 5.3<br>Annex C | IS 15477  | R   | One                      | Each control unit   | -  |
| 5.4                 | Adjustment time           | 5.4<br>Annex D | IS 15477  | R   | One                      | Each control unit   | -  |
| 5.5                 | Slip                      | 5.5<br>Annex E | IS 15477  | R   | One                      | Each control unit   | -  |
| 5.6                 | Deformability             | 5.6<br>Annex F | IS 15477  | S   | One                      | Once in a month for each type of adhesive and for each deformability classification |  |

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.