

---

---

**छत के ऊपरी भाग को ठंडा रखने के लिये  
सौर ताप के परावर्तन हेतु बाहरी कोटिंग**

**Solar Thermo-Reflective Exterior  
Coating for Cooling of Roof Top**

ICS 87.020

© BIS 2019



**भारतीय मानक ब्यूरो**  
**BUREAU OF INDIAN STANDARDS**  
मानक भवन, 9 बहादुरशाह ज़फर मार्ग, नई दिल्ली – 110002  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI-110002  
[www.bis.gov.in](http://www.bis.gov.in) [www.standardsbis.in](http://www.standardsbis.in)

**August 2019**

**Price Group 3**

- f) Batch number or lot number in code or otherwise;  
 g) Month and year of manufacture;  
 h) Colour/shade of the material; and  
 j) A cautionary note as given below:  
 1) Keep out of reach of children.  
 2) Dried film of this paint may be harmful if eaten or chewed.  
 3) This product may be harmful if swallowed or inhaled.

### 6.2.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the standard mark.

## 7 SAMPLING

### 7.1 Preparation of Test Samples

#### 7.1.1 For Registration

The sample shall be submitted in three different containers each containing not less than 500 ml of the material.

#### 7.1.2 Bulk Supply Sample

Representative samples of the materials shall be drawn and treated as prescribed in IS 101 (Part 1/Sec 1).

#### 7.1.3 For Drying Time Test

Prepare mild steel panel of sizes 150 mm × 100 mm × 1.25 mm as prescribed in 2 of IS 101 (Part 1/Sec 3) and concrete panel of size 150 mm × 150 mm × 12.5 mm as prescribed in 7 of IS 101 (Part 1/Sec 3). Apply the

**Table 1 Requirement for Solar Thermo-Reflective Exterior Coating for Cooling of Roof Top for Roof Top**  
 ( Clause 5.4 )

Sl No.	Characteristic	Requirement		Method of Test
		Emulsion Paints	Solvent Based Paint	
(1)	(2)	(3)	(4)	(5)
i)	Drying time, <i>Max</i>			IS 101 (Part 3/Sec 1)
	a) Surface dry	30 min	2 h	
	b) Hard dry	3 h	12 h	
	c) Tack free	4 Days	7 Days	
ii)	Mass, kg/10 litre, <i>Min</i>	13	12.5	IS 101 (Part 1/Sec 7)
iii)	a) Consistency	Smooth, uniform and suitable for brushing without appreciable drag on the brush		Annex C of IS 133
	b) Viscosity, sec, in No. 4 Ford Cup at 27 ± 2°C	80 to 120		IS 101 (Part 1/Sec 5)
iv)	a) Finish	Matt	Glossy	IS 101 (Part 3/Sec 4)
	b) Gloss, 60°	—	50-60	IS 101 (Part 4/Sec 4)
v)	Volume Solids, percent, <i>Min</i>	47		IS 101 (Part 8/Sec 6)
vi)	Colour	Close match to the specified IS colour as in IS 5 or to an agreed colour		IS 101 (Part 4/Sec 2)
vii)	Thickness, dry film, microns, <i>Min</i>	120	120	Annex A of IS 16676
viii)	Solar reflectance index, <i>Min</i>	102	102	ASTM E 1980-11
	a) Reflectance, <i>Min</i>	80 percent	80 percent	ISO 9050
	b) Emissivity, <i>Min</i>	0.92	0.92	EN 673
ix)	Pull off adhesion, <i>Min</i>	2.8 MPa	7.2 MPa	Annex D of IS 16676
x)	Hardness (pencil), <i>Min</i>	3h	5h	IS 101 (Part 5/sec 1)
xi)	Pot life at 30°C, <i>Min</i>	—	3 h	Annex J of IS 5410
xii)	Accelerated weatherometer test, 2 000 h exposure	Gloss retention and colour fastness shall be minimum 90percent of original.	Gloss retention and colour fastness shall be minimum 95 percent of original.	IS 101 ( Part 6 / Sec 5)