

Laboratory Regional Test Centre (Solar Thermal), Madurai Kamaraj University,
 School of Energy, Environment & Natural Resources, Madurai,
 Tamil Nadu
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number TC-6845 (in lieu of T-2308) **Page 1 of 2**
Validity 09.11.2017 to 08.11.2019 **Last Amended on** 30.01.2018

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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MECHANICAL TESTING

I.	SOLAR FLAT PLATE COLLECTOR			
1.	Cover plate of Solar Flat Plate Collector	Transmittance	IS 12933 (Part 2):2003	Solar radiation (Upto 1200 W/m ²)
		Impact resistance	IS 12933 (Part 5):2003	Qualitative (Mass: 150±10g) (Height: 1m)
		Visual appearance	IS 12933 (Part 2):2003	Qualitative
2.	Collector box	Dimensions	IS 12933 (Part 1) & 2:2003	
		Length		Upto 3 m
		Breadth		Upto 1 m
		Height		Upto 0.1 m
		Visual appearance	IS 12933 (Part 2):2003	Qualitative
3.	Absorber of Solar Flat Plate Collector	Temperature	IS 12933 (Part 2):2003	Qualitative
		Visual appearance	IS 12933 (Part 2):2003	Qualitative
4.	Insulation of Solar Flat Plate Collector	Visual appearance	IS 12933 (Part 2):2003	Qualitative
5.	Gaskets & grommets of Solar Flat Plate Collector	Thermal shock	IS 12933 (Part 2):2003	Qualitative
		Visual appearance	IS 12933 (Part 2):2003	Qualitative
6.	Solar Flat Plate Collector	Assembly & workmanship	IS 12933 (Part 2):2003	Qualitative
		Static pressure leakage	IS 12933 (Part 5):2003	Qualitative (Upto 5 kg/cm ²)
		Outdoor no flow exposure	IS 12933 (Part 5):2003	Qualitative (Minimum irradiation of 4 kWh/m ² /day for 30 days)
		External thermal shock	IS 12933 (Part 5):2003	Qualitative (Flow Rate 0.6 to 1.0 l/s)

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		Internal thermal shock	IS 12933 (Part 5):2003	Qualitative (Flow rate: 0.04 kg/ cm ² min for 5 min)
		Rain penetration	IS 12933 (Part 5):2003	Qualitative (Flow rate: 0.06 to 0.10 kg/sec)
		Thermal performance Solar radiation Temperature Length Breadth	IS 12933 (Part 5):2003	Upto 1200 W/m ² Upto 60 °C Upto 3 m Upto 1 m