

Sample Id. 1245_16092025	TEST REPORT N° ETR-25-0870	Page 1/2
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GENERAL INFORMATION

Subject:	Test report on testing activities to determine solar reflectance, infrared emittance and solar reflectance index (SRI)		
Client	COBETON S.r.l. via Arti e Mestieri n. 15 33080 Roveredo in Piano (PN) PIVA: 00624650933	Client reference person	Mr. Matteo Battistella phone: +39 333 3556738 email: battistella@cobeton.com PEC: cert@pec.cobeton.it
Commitment document	MO_GC_05 dated 04/08/2025 sent by Mr. Matteo Battistella	Report release date	06/10/2025
Tests performed in	EELab – Dipartimento di Ingegneria "Enzo Ferrari" – via Vivarelli 10, 41125 Modena - Italy		
Notes	-		

SAMPLE DATA

Data provided by the customer for which the customer assumes full responsibility (#)						 Sample picture	
Product name (#)	DRAINMIX						
Manufacturer (#)	COBETON S.r.l.						
Short physical description (#)	Product type: draining concrete Surface aspect and/or coating: rough and irregular, with open pores of the cement matrix Substrate: substrate and finishing are the same material						
Sample thickness (#)	20 mm	Total sample size (#)	10 x 10 cm				
Surface coated (#)	NO	Coating thickness (#)	N.A.				
Information on history and ageing (#)	N.A.						
Other information							
Receipt date	16/09/2025						
Sample id. sub.	-						
ECRC id	-						
Sampling	Carried out by the Client						
Ageing	-						
Treatments (#)	-						
Surface state	Variegated	NO	Aged	NO	Cleaned (#)	NO	
Optical properties	Diffusive reflecting	NO	Intermediate reflecting	YES	Clear transmitting	NO	
	Specular reflecting	NO	Translucent transmitting	NO	Opaque	YES	
Notes							
(#) The laboratory declines all responsibility for the data supplied by the customer							

The test results are based on the material supplied by the client, as received by the Laboratory. This report shall not be reproduced except in full without the written approval of this laboratory. This laboratory assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k = 2$, which for a normal distribution provides a level of confidence of approximately 95%.



Sample Id. 1245_16092025	TEST REPORT N° ETR-25-0870	Page 2/2
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TEST RESULTS

Test Date		Solar Reflectance (SR)	Standard Deviation	Measured Values				
16/09/2025	Value	0.241	0.009	0.240	0.233	0.249	0.232	0.251
	U(k=2, P=95%)	(± 0.006)						
Test method		ASTM C1549-16(2022)						
Reference Solar Spectrum		ASTM E 891– 87 (1992) Beam normal						
Notes	This test was performed according to ASTM C1549-16 (2022): Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Reflectometer with air mass 1.5. A solar spectrum reflectometer Devices and Services SSR-ER was used. Calibration standards with low (0.000) and high (0.864) solar reflectance were provided by the instrument manufacturer. Measurements were conducted at ambient temperature of 22 ± 1°C and relative humidity of 63% ± 10%.							

Test Date		Infrared Emittance (IE)	Standard Deviation	Measured Values				
16/09/2025	Normal value	0.969	0.005	0.964	0.976	0.973	0.967	0.967
	U(k=2, P=95%)	(± 0.017)						
Hemispherical corrected value		0.921	Corrected according to: "A correlation between normal and hemispherical emissivity of low-emissivity coatings on glass" M. Rubin et Al. 1987					
Test method		UNI EN 15976: 2011						
Notes	This test was performed according to UNI EN 15976: 2011: Flexible sheets for waterproofing. Determination of emissivity (except point 10). Calibration standards with low (0.010) and high (0.964) emittance were provided by the instrument manufacturer. Samples have been conditioned at room temperature for 2 h before the test. Measurements were conducted at ambient temperature of 22 ± 1°C and relative humidity of 63 ± 10% in a time period of about 1 h.							

Test Date		Solar Reflectance (SR)	Infrared Emittance (IE)	Solar Reflectance Index (SRI)[%]		
				Low wind	Medium wind	High Wind
				24.2	25.2	25.7
				Surface temperature (ST) [°C]		
16/09/2025	Value	0.241	0.921	90.5	72.9	55.9
Test method		ASTM E1980-24				
Notes	This calculation was performed according to ASTM E1980-24: Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces. This utilizes the following values for the convection coefficient: $h_c = 5 \text{ W/m}^2\cdot\text{K}$ for low-wind (0 to 2 m/s), $h_c = 12 \text{ W/m}^2\cdot\text{K}$ for medium-wind (2 to 6 m/s), and $h_c = 30 \text{ W/m}^2\cdot\text{K}$ for high-wind (6 to 10 m/s).					

The Responsible of EELab Laboratory (Prof. Alberto Muscio)