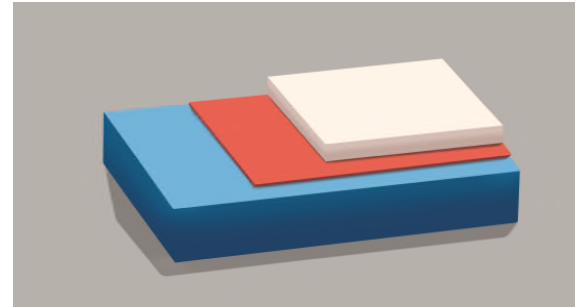


AKALIGHT ECS® 055

General

AKALIGHT ECS® 055 is a white colored UV-stable and hydrolytic resistant two-layer insulating material. It has been developed for the specific application as a backsheet of a Photovoltaic Module which minimum requirements are described in the International Standard IEC 61730-1.

Electrical, mechanical and optical properties of AKALIGHT ECS® 055 remain at high level when exposed to UV radiation or to rough combined temperature/humidity conditions (e.g. 2000 h, 85%rh, 85°C).



AKALIGHT ECS® 055 incorporates two basic layers with different functional importance. EPILAM and CORLAM carrying mainly the electrical and mechanical properties of the structure and bonding to the polymers used as pottings, sealants or adhesives, are combined into one layer. SUBLAM on the cell side provides a high bonding to the encapsulant.

All tests including accelerating tests are performed on plane back sheet.

Required properties in accordance to IEC 61730-1

Property	Unit	Test method	Results	Testing laboratory
Max. system voltage (tested in air)	V _{DC}	IEC 60664-1	1038	VDE, Offenbach
DTI (distance through insulation)	µm	IEC 61730 (new)	> 150 (1000V)	tbm on module
UV resistance	-	EN 4892-3	Passed ¹⁾	KREMPEL
Flame spread index without primer ^{3.)}	-	ASTM E 162-09	< 10	Listing by PET manufacturer
CTI	V	IEC CTI	600	UL
Relative Thermal Index (RTI)	°C	IEC 60216-5	≥ 125 ²⁾	UL

1) 2000h UV exposure with 0.68 W/m²; 340 nm; 60°C; 500 min. wetting; 1000h condensation. Total exposure time 3000h. Tested on both sides.

2) Generic thermal index according UL 746B table 7.1 for PET layer

3.) not required in new IEC 61730-1

Additional properties

Property	Unit	Test method	Typical values
Thickness	mm	EN 60674-2	0.29
Area weight	g/m ²	EN 60674-2	360
Water vapour permeability 38°C/90%rh	g/m ² · d	ISO 15106-3 Test condition 2	2.18
Dimensional stability, MD + TD (30 min. / 150 °C)	%	EN 60674-2	≤ 1.2
Reflection of visible light (380 – 780nm) ⁴⁾	%	EN 410	86
Reflection of visible light with white background	%	EN 410	91
Reflection of radiation (280 – 2500nm) ⁴⁾	%	EN 410	71

4) Tested at Primer side = cell side; direct solar radiation. Test equipment: Perkin Elmer Lambda 900 (Ulbrichtkugel) tested at Fraunhofer ISE, Freiburg, Germany



AKALIGHT ECS® 055 is recognized as UL Recognized Component (File No. QIHE2.E312459)

12.4

All values stated are to be seen as typical values. We reserve the right to introduce changes within the framework of further technical development. We do not accept any obligations or liabilities in respect of this information. Status: 08/2016
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