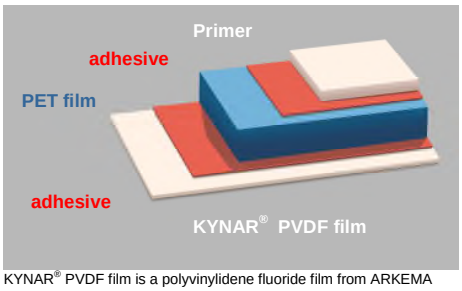
AKASOL® PVL 355
KYNAR®+ Polyester + Primer

General

AKASOL®PVL 355 is a KREMPEL laminate consisting of 18µm white KYNAR® PVDF film and polyester film. 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 **AKASOL®PVL 355 remain at high level** when exposed to UV radiation or to rough combined temperature/humidity conditions (e.g. 2000 h, 85%rh, 85°C).
The **UV stabilized**, white Primer layer of PVL 355 gives improved adhesion to the encapsulating polymer.



KYNAR® PVDF film is a polyvinylidene fluoride film from ARKEMA

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

Required properties in accordance to IEC 61730-1

Property	Unit	Test method	Results	Testing laboratory
Maximum system voltage (in air)	V_{DC}	IEC 60664-1	1131	VDE, Offenbach
- after conditioning 2000h 85°C/85%rh [4)]	V_{DC}	IEC 60664-1	> 1000	VDE, Offenbach
UV resistance (UVA 340nm)	-	EN 4892-3	Passed [1)]	KREMPEL
UV resistance (Xenon arc)	-	UL 746C	Passed [2)]	JET
Flame spread index	-	ASTM E 162	32	UL
Relative Thermal Index (RTI)	°C	UL746B	140 [3)]	UL

1) 2000h UV exposure with 0.68 W/m² at 340 nm; 60°C; 500 min. wetting; 1000h condensation. Total exposure time 3000h. Tested on air side and Primer side.
2) 1000h UV exposure acc. UL746C (Xenon-arc), flammability not reduced, retention of tensile strength and impact of min. 70%.
3) RTI tested as electrical temperature rating of KYNAR®. Mechanical temperature rating of KYNAR® is 150°C.
4) not required in IEC 61730-1

Certificates

AKASOL®PVL355 is an UL Recognized Component (File No. QIHE2.E312459)

AKASOL®PVL355 belongs to product family AKASOL®PVL which has TUVdotCOM certification ID0000033022 from TÜV Rheinland® LGA, certificate no. R60103915

JET certification of AKASOL® PVL 355 with registration number: 1623-C9801-165.

KREMPEL GmbH Quality Standards: ISO/TS 16949 (Reg.No.068224) and ISO 9001 (Reg.No.003915).

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Additional properties not required by IEC 61730-1

Property	Unit	Test method	Typical values
Thickness	mm	EN 60674-2	0.38
Area weight	g/m²	EN 60674-2	490
Water vapour permeability 38°C/90%rh	g/m² · d	ISO 15106-3 Test condition 2	1.95
Moisture absorption	%	DIN EN ISO 62	≤ 0.4
Dimensional stability, MD + TD (30 min. / 150 °C)	%	EN 60674-2	≤ 1.2
Reflection of visible light (380 – 780nm) [1)] Reflection of visible light with white background Reflection of radiation (280 – 2500nm) [1)]	% % %	EN 410 - EN 410	86 91 71
Volume resistivity	Ω·cm	UL 746A	10^{16}
Dielectric strength	kV/mm	UL 746A	64
Comparative Tracking Index	V (max)	IEC 60112	CTI600
High-current arc ignition	PLC	UL 746A	1

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

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