

dnpSolar Back Sheet: VAPEW



dnpSolar Back Sheet materials are designed to provide long lifetime to photovoltaic modules. The dnpSolar Back Sheet PV-BS VAPEW is a laminated film composite made of multiple layers of a hydrolysis & UV resistant PET / aluminium / PET / Polyolefin. Comprising an aluminium layer this Back Sheet offers first class protection against weathering, moisture and UV. It also provides very good dielectric, UV protection, reflectance and durability properties. Photovoltaic modules laminated with dnpSolar Back Sheet's materials have been successfully tested by several module manufacturers and satisfy with external certification institutes.

VAPEW truly provides any solar module with the best possible protection.

PV-BS VAPEW	Test method	Unit	Test Conditions	Value
> Material Properties Material Composition				Hydrolysis & UV Resistant PET/ALM/ PET/Polyolefin
> Basic Properties Colour Thickness	JIS-K7130 + ASTM E 252-06	mm		White 0,34
> Physical Properties Tensile Strength Elongation to Break Water Vapor Permeability Thermal Shrinkage	UL746A + ISO 527-3 JIS-K7127 UL746A + ISO 527-3 JIS-K7127 ISO 15106-2 ASTM F 1249-90 JIS-K7129 JIS-C2151 + ASTM D1204	MPa % g/(m ² *day) %	23°C , 85% RH 40°C , 90% RH 150°C, 30 min.	MD = 95 / TD = 114 MD = 90 / TD = 72 ≅ 0 ≅ 0 MD = 0,6 / TD = 0,2
> Electrical Properties Breakdown Voltage Partial Discharge Voltage	ASTM D 149 + IEC60243-1 IEC60664-1	kV VDC	TÜV report no. 12018950 001	24,9 1070
> Adhesion Properties Adhesion Strength to Encapsulant (EVA)	JIS-K6854-2	N/15mm	Peeling angle 180°	> 100
> Flameability Properties Maximum Flame Spread Index	ASTM E 162-02a IEC 61730-1			Passed test
> UV Properties UV Resistance	UL746C			Passed test

This information does not represent a specification.

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dnpSolar is a business unit within dnp denmark focussing on servicing the European market for Solar energy. dnpSolar is thus a part of Dai Nippon Printing Co. Ltd. (DNP), the worlds largest general printing company and the direct link to the DNP Energy Division where all development and manufacturing of materials for solar cells take place. Established in 1876, with more than 40.000 employees and with net-sales of more than 14 billion EUR, DNP has a proven track record of constant development and ground braking innovations in multiple business areas. Within recent years DNP has invested heavily in the development of components for green energy manufacturing including high-tech plastic sheets for solar cells. dnpSolar will market these product on the European market on behalf of DNP.