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TONSAN

A Portfolio of PV Adhesives

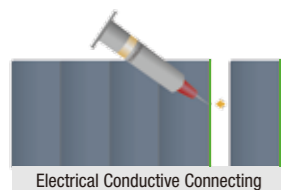
Bonding and Sealing Solutions for PV Industry



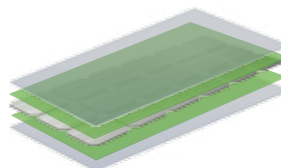
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Connecting what matters.™

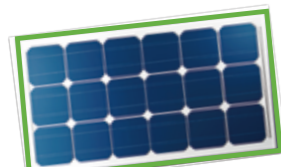
Main Physical and Mechanical Properties



Electrical Conductive Connecting



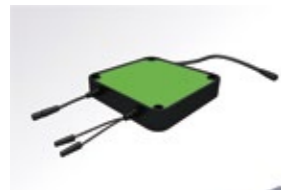
PV Cell Encapsulating



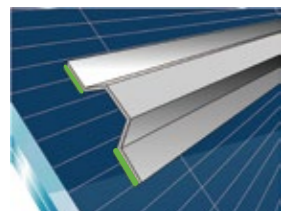
Edge Sealing



J-box Potting



Inverter Potting



Rail Bonding



J-box Attaching



Frame Sealing

PV System Installation
Sealing and Bonding

PV Module
Structure Bonding

PV Module
J-box Attaching

PV Module
Frame Sealing

Product	Description	Curing Type	Mix Ratio by Volume	Color	Viscosity (cPs) Extrusion Rate (s/20g)	Working Time @25 C	Curing Speed	Tensile Strength (MPa)	Shear Strength (MPa)	Thermal Conductivity (W/m-K)	Breakdown Voltage (kV/mm)	Volume Resistance (Ω·cm)
PV Cell Conductive Connecting	8803 Curing profile matches typical lamination process Excellent electrical conductive property Good flexibility and low contact stress Reliable and durable conductive connecting Stencil printing or dispensing for automatic assembling process	Addition cure	1-part	Silvery	7000-10000	Fixing time 10s@150 C	20min@150 C	/	≥2.0	/	/	≤5.0×10 ⁴
	8806 Curing profile matches typical lamination process Good electrical conductive property Good flexibility and low contact stress Reliable and durable conductive connecting Stencil printing or dispensing for automatic assembling process	Addition cure	1-part	Silvery	8000-12000	Fixing time 10s@150 C	20min@150 C	/	≥1.0	/	/	≤2.0×10 ³
PV Cell Encapsulating	2538 Curing profile matches low temperature lamination process Good adhesion to glass and PV cell High optical transmission and UV transparent to 250nm Excellent electrical insulation property Superior aging property and yellowing-proof PID free	Addition cure	1:1, 2-part	Transparent	42000-48000	≥60min	12.5min@65 C	≥0.2	/	/	≥20	≥0.5×10 ¹⁵
	2538H Curing profile matches high temperature lamination process Good adhesion to glass and PV cell High optical transmission and UV transparent to 250nm Excellent electrical insulation property Superior aging property and yellowing-proof PID free	Addition cure	1:1, 2-part	Transparent	42000-48000	≥60min	12.5min@130 C	≥0.2	/	/	≥20	≥0.5×10 ¹⁵
Frameless PV Module Edge Sealing	PIB6510 Low modulus Low MVTR Good adhesion to glass, aluminum and common backsheet substrates after lamination process at 70 C Good electrical insulation property UV resistant Both tape and drum sealant available	/	1-part	Black	/	/	/	/	≥0.05 Peel strength ≥0.5N/mm	/	≥15	≥0.5×10 ¹⁵
	PIB6520 Extremely low MVTR Good adhesion to glass, aluminum and common backsheet substrates after lamination process at 110-160 C Good electrical insulation property UV resistant Improved temperature stability Both tape and drum sealant available	/	1-part	Black	/	/	/	/	≥0.2 Peel strength ≥1N/mm	/	≥15	≥0.5×10 ¹⁵
PV J-box Potting	1521 Proven performance in J-box potting Good thermal conductivity and flame retardancy Excellent dielectric properties Long-term resistance to harsh weather Meet the requirements of 1500V PV system Passed UL f2 test	Condensation cure	4:1, 2-part	White/Black	2500-3500	≥8min	Gel time≤60min	≥0.8	/	≥0.25	≥20	≥1×10 ¹⁵
	1533 Excellent fluidity and easy gap-filling Excellent dielectric properties and V1 flame retardancy Good thermal conductivity Long-term resistance to harsh weather Meet the requirements of 1500V PV system Passed UL f2 test	Condensation cure	4:1, 2-part	White/Black	1000-3000	≥8min	Gel time≤60min	≥0.8	/	≥0.25	≥20	≥1×10 ¹⁵
Inverter Potting	2533W Fast cure at room temperature, easily to remove and rework Good thermal conductivity Excellent dielectric properties and V0 flame retardancy Extremely low contact stress Long-term resistance to harsh weather	Addition cure	1:1, 2-part	White	6000-8000	≥8min	Gel time≤45min	≥0.2	/	≥0.8	≥15	≥1×10 ¹⁵
	2532 Good thermal conductivity Excellent dielectric properties and V0 flame retardancy Long-term resistance to harsh weather	Addition cure	1:1, 2-part	White/Black	2000-4000	1-3h	≤16h@23 C 40min@50 C	≥1.5	/	≥0.8	/	≥1×10 ¹⁵
PV Module Frame Sealing	TICTAK621 Immediate bonding and easy application process. Good adhesion to aluminum, glass and common backsheet films Protect the PV module against mechanical load Excellent UV & weathering resistance	Foam tape	/	White/Black	/	/	/	≥1.0	≥0.4	/	≥15	≥1.0×10 ¹⁵
	1527 Proven performance in frame sealing and J-box attaching Good processibility, anti-extrusion after module assembly Good adhesion to anodized aluminum frame, glass, J-box and common backsheet films Good dielectric properties and flame retardancy Long-term resistance to harsh weather Conforms to the testing requirements of UL1703, IEC61215, IEC61730, GB/T 29595	Moisture cure	1-part	White/Black	10-20 s/20g	5-15min	≥0.9mm/3h	≥2.2	≥1.0	/	≥15	≥0.5×10 ¹⁵
	1526 Good processibility Good adhesion to anodized aluminum frame, glass, J-box and common backsheet films Good dielectric properties and flame retardancy Long-term resistance to harsh weather Conforms to the testing requirements of UL1703, IEC61215, IEC61730, GB/T 29595	Moisture cure	1-part	White/Black	10-20 s/20g	5-15min	≥0.9mm/3h	≥2.2	≥1.0	/	≥15	≥0.5×10 ¹⁵
	1522 Fast cure High bonding strength with glass, aluminum alloy and galvanized steel Good dielectric properties and flame retardancy Excellent elastic deformation ability and resistance to high and low temperatures Excellent resistance to harsh weather Resistant to acid and alkali	Condensation cure	10:1, 2-part	White/Black	A:7-14 s/20g B:5-11 s/20g	10-30min	Gel time≤60min	≥2.0	≥1.2	/	≥15	≥0.5×10 ¹⁵
	1523 High bonding strength with glass, aluminum alloy and galvanized steel Good dielectric properties and flame retardancy Excellent elastic deformation ability and resistance to high and low temperatures Excellent resistance to harsh weather	Moisture cure	1-part	White/Black	10-20 s/20g	3-15min	≥0.9mm/3h	≥2.0	≥1.0	/	≥15	≥0.5×10 ¹⁵
	1581 Alcohol type Good adhesion to anodized aluminum frame, glass, J-box and common backsheet films Good dielectric properties and flame retardancy Long-term resistance to harsh weather Conforms to the testing requirements of UL1703, IEC61215, IEC61730, GB/T 29595	Moisture cure	1-part	White/Black	10-20 s/20g	3-15min	≥0.8mm/3h	≥2.0	≥1.0	/	≥15	≥0.5×10 ¹⁵
	MS1937 Non-corrosive Reliable bonding with aluminum, steel, marble, cement, etc. High mechanical properties UV resistant Environmentally safe	Moisture cure	1-part	White/Black	10-20 s/20g	5-20min	≥3mm/24h	≥3.0	≥2	/	≥15	≥0.5×10 ¹⁵
PIB6530 Proven performance in the field "Peel and stick" installation concept Excellent tack and adhesion under outside conditions	PIB Tape	/	/	Black	/	/	/	/	≥0.06	/	≥15	≥0.5×10 ¹⁵

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IMPORTANT : It is the user's responsibility to test and determine the suitability of a product for the user's intended use. Any product samples provided for testing are provided in accordance with standard limited warranties as stated on our technical data sheets.

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