

Technical Data Sheet

Type: Pearlstick™ 5712 TPU is a Polyester-Type Thermoplastic Polyurethane (TPU).

Features: It has the highest peel and green strengths and shortest open-tack time of any Pearlstick TPU resin used in adhesives. Supplied as pale amber granules, it is lightly dusted with talc. Higher heat resistance, tensile and bond strengths can be achieved with the addition of diisocyanates, peroxides, epoxies and polyfunctional amides.

Uses: Solution and melt coating.

Typical Properties	Value	Typical Values*	
		SI Units	English Units
Specific Gravity	ASTM D-792	1.20	1.20
Shore Hardness	ASTM D-2240	40D	40D
Mechanical			
Tensile Strength	ASTM D-412/D-638	37.2 MPa	5400 psi
Modulus	ASTM D-412/D-638		
- 100% Elongation		5.9 MPa	850 psi
- 300% Elongation		9.0MPa	1300 psi
Ultimate Elongation	ASTM D-412/D-638	600%	600%
Brookfield Viscosity, 20% T.S. in MEK	RVT Spindle #2, 20 RPM, 23°C	3000 cps	3000 cps
Final Peel Strength	----	8.1 kN/m	46 lb/in
Green Strength	-----	6.5 kN/m	37 lb/in
Open Tack Time	----	2 hours	2 hours
Thermal			
Glass Transition Temperature	DSC**	-39°C	-38°F
Heat Resistance	Lubrizol 899	70°C	158°F
Heat Activation	----	54°C	130°F
Adhesive			
Ring and Ball Softening Point	ASTM E-28-92	184°C	363°F
Melt Viscosity @ 204°C (400°F)	ASTM D-1084-88	223,000 cps	223,000 cps
Gradient Bar Tack Temperature		124°C	255°F
Open Time	ASTM D-4497-94	225 sec	225 sec
T-Peel, Aluminum Foil	ASTM D-1876-72	1.4 kN/m	7.8 lb/in
T-Peel, Mylar Film	ASTM D-1876-72	6.5 kN/m	36.9 lb/in

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Handling Considerations

Properties of all thermoplastic polyurethane products in the molten state are adversely affected by moisture. Although Pearlstick TPU compounds are dry when packaged, trace amounts of moisture can be absorbed during storage and handling. For best results, always dry the material twelve hours at 55°C (131°F) in a dehumidifying hopper dryer.

STORAGE

Pearlstick™ 5712 must be stored in a cool (15–25°C) and environment prior to being processed. Standard practice of consuming resin on first-in first-out basis should be employed.

For further information refer to Lubrizol Advanced Materials processing guides.

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