

Technical Data Sheet

Type: Pearlstick® 5713 TPU is a Polyester-Type Thermoplastic Polyurethane (TPU).

Features: It has the highest heat resistance of any Pearlstick TPU resin used in adhesives. Supplied as pale amber granules, it is soluble in THF or THF/MEK blends. Higher heat resistance, tensile and bond strengths can be achieved with the addition of diisocyanates, peroxides, epoxies and polyfunctional amides.

Uses: Hot melt adhesive, solution cast films for lamination on fabrics.

Physical Properties	Value (Metric)	Units	Test Method
Specific Gravity	1.22		ASTM D-792
Shore Hardness	90A/45D	Shore D	ASTM D-2240
Mechanical			
Tensile Strength	5500 (37.9)	psi (MPa)	ASTM D-412/D-638
Modulus			ASTM D-412/D-638
- 100% Elongation	680 (4.7)	psi (MPa)	
- 300% Elongation	1300 (9.0)	psi (MPa)	
Ultimate Elongation	600	%	ASTM D-412/D-638
Brookfield Viscosity			RVT Spindle #2, 20 RPM, 23°C
- 15% T.S. in THF	800-1300	cps	
Adhesion to Peel Strength	41(7.2)	lb/in (kN/m)	TP-141

- ¹Prior to testing samples were conditioned at 23°C for 48 hours.
- Based on extruded sheet (30 mils) or Injection molded plaques (125 mils).
- Listed values are "typical (average) values" and should / cannot be applied for specification purposes.

Supply Form and Standard Packaging

Pearlstick® 5713 TPU is supplied in pellet form and packaged in 1000 lb boxes.

Properties	Value	Units*	Test Method
Thermal			
Glass Transition Temperature	-45(-43)	°F(°C)	DSC**
Vicat Softening Point	203 (95)	°F(°C)	ASTM D-1525
Adhesive			
Ring and Ball Softening Point	338 (170)	°F(°C)	ASTM E-28-92
Melt Viscosity @ 400°F (204°C)	130000	cps	ASTM D-1084-88
Gradient Bar Tack Temperature	183 (84)	°F(°C)	
Open Time	>315	sec	ASTM D-4497-94
T-peel, Aluminum Foil	2.2 (0.4)	lb/in (kN/m)	ASTM D-1876-72
T-peel, Mylar Film	29.7 (5.3)	lb/in (kN/m)	ASTM D-1876-72

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*These are typical values and should not be used for establishing specifications.
Contact your representative for availability and commercialization status.
**Differential Scanning Calorimeter, 10°C/min, temperature program, from the second heat.

STORAGE

Pearlstick™ 5713 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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