

# Polystrand™ IE 5842

## Continuous glass-reinforced thermoplastic PETG composite

### Key Characteristics

#### Product description

Polystrand™ IE 5842 is a PETG-based thermoplastic unidirectional tape, which balances strength and toughness with excellent adhesive properties. Applications include structural components and reinforcement for wood, metal, and polymer molded or thermoformed components. The use of PETG resin imparts excellent mechanical properties, and good chemical and solvent resistance. Unidirectional tapes are available in rolls 25" wide. Custom slit widths and finished stampings are also available. Multi-ply laminates are available with plies arranged in 0 or 90 degree orientations, with maximum roll width of 125".

### Technical Properties of Unidirectional Tape

#### Typical Properties

PROPERTY	TEST METHOD	UNITS	DATA
Glass Content	ASTM D3647	wt%	58
Areal weight	--	oz/yd2 (g/m2)	12.0 (405)
Thickness	--	In (mm)	0.012 (0.3)
Flexural modulus	ASTM D790	Mpsi (MPa)	4.18 (29)
Flexural Strength	ASTM D790	Ksi (MPa)	87 (602)
Longitudinal Tensile Modulus	ASTM D3039	Mpsi (GPa)	4.14 (28.5)
Longitudinal Tensile Strength	ASTM D3039	Ksi (MPa)	82.8 (571)
In-Plane Poisson's Ratio	ASTM D3039	--	0.27
Transverse Tensile Modulus	ASTM D3039	Mpsi (GPa)	0.52 (3.6)
Transverse Tensile Strength	ASTM D3039	Ksi (MPa)	1.5 (10.0)
Longitudinal Compressive Modulus	ASTM D6641	Mpsi (GPa)	0.71 (4.9)
Longitudinal Compressive Strength	ASTM D6641	Ksi (MPa)	29.5 (197)
Transverse Compressive Modulus	ASTM D6641	Mpsi (GPa)	0.26 (1.8)
Transverse Compressive Strength	ASTM D6641	Ksi (MPa)	5.5 (38)
In-Plane Shear Modulus	ASTM D7078	Mpsi (GPa)	0.21 (1.5)
In-Plane Shear Strength	ASTM D7078	ksi (GPa)	3.0 (21)
Transverse Shear Modulus	ASTM D7078	Mpsi (GPa)	0.17 (1.2)
Transverse Shear Strength	ASTM D7078	ksi (GPa)	6.7 (46)

#### Notes

NOTE: The data listed herein reflect typical sheet properties. They are the latest available at the time of publication and are reliable to the best knowledge of PolyOne. The properties are listed solely to give general guidance and are not to be construed as a warranty or representation for of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own test to determine the safety and suitability of each such product or product combination for their own purposes. We sell the products without

warranty. Buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.

#### Processing

**Polystrand™ IE 5842 process temperature is 420-470F (215-243C). Contact PolyOne for detailed set-up and processing guidelines.**

Please contact PolyOne for data relating to a specific application or equipment.

#### Availability

Polystrand™ IE 5842 roll or laminated sheet is available in the US, EU and Asia Pacific regions.

## CONTACT INFORMATION

For additional information, please contact PolyOne Advanced Composites at +1.866.POLYONE (+1.866.765.9663) or visit our web site at [www.polyone.com](http://www.polyone.com).

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