



1383 Direct Size Yarn

PRODUCT DATA

FEATURES

1383 Direct Size Yarns:

- E-glass for extremely good electrical insulating properties and very high mechanical strength.
- PPG 1383 yarn provided with a special size based on a universal silane coupling agent.
- Unlike conventional textile size, no further treatment such as heat cleaning (with a typical reduction of 10-20% in tensile and flexural strength) and re-impregnation with size.
- Combines optimum yarn processing properties for warping, weaving, braiding, and knitting, with excellent composite properties.
- Fast impregnation with common resins such as: Unsaturated Polyester, Epoxy, Phenolics, Vinylester
- Returnable pallet system
- Bobbin size from 9 – 20 lbs. maximum (both small and large bobbins available)
- Supported by PPG's technical experts in composite applications and glass/resin technology

PRODUCT DESCRIPTION

PPG 1383 Direct Size Yarn is made of E-glass and used for a wide variety of applications. The basic reason for these varied application possibilities is the combination of extremely good electrical insulating properties and the very high strength of E-glass fiber.

Yarn 1383 can be used for a large number of glass fiber reinforcement applications, but is particularly chosen in those cases where laminates with very high mechanical properties are required.

PRODUCT APPLICATIONS

1383 Yarn fiber potential uses:

- Braids and Hybrid Braids
 - Hose/Electrical Cables
 - Skis & Laminates
- 3-D Fabrics for Weaving
 - Sandwich Structures for Tank Lining
- Woven
 - High Voltage Pipes
 - Electrical Laminators
 - Prepreg for Aerospace
 - Carbon/1383 Hybrids
- Unidirectional Tapes
 - Armature Banding
 - Sporting Goods
- Narrow Fabric Tapes
 - Joints for Piping
 - Reinforce Stress Point

PPG ADVANTAGE

PPG is a global industry leader in glass, resin and fiber technologies. The PPG Advantage is:

- Glass chemistry and property expertise
- Innovative resin technology
- Composite applications expertise
- Technical support staff
- Multiple research laboratory, technical and analytical support

The technical data presented in this bulletin is based upon information believed by PPG to be currently accurate. However, no guarantees of accuracy, comprehensiveness, or performance are given or implied. Continuous improvements in technology may cause future technical data to vary from what is in this bulletin. Contact your PPG representative for the most up-to-date information.



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COMPOSITE PROPERTIES

Long term experience with PPG 1383 yarn indicates that the composite properties are on a high level. Research was performed with fabrics of different origins and with different fabric constructions and weaves. The mechanical properties listed in the table are characteristic for fabrics with PPG 1383 yarn, built up from equal numbers of yarn in warp and fill, and with twill weave.

1383	Test Method	Unit	Polyester	Epoxy	Phenolic
Tensile Strength	ISO 3268	MPa / Ksi	580 / 84.1	590 / 85.6	550 / 79.8
Tensile Modulus	ISO 3268	MPa / Ksi	25 / 3625	25 / 3625	23 / 3335
Flexural Strength	ISO 178	MPa / Ksi	540 / 78.3	760 / 110	610 / 88.4
Flexural Modulus	ISO 178	MPa / Ksi	23 / 3335	23 / 3335	23 / 3335
Compressive Strength	ASTM D 695	MPa / Ksi	300 / 43.5	430 / 62.4	360 / 52.2
Glass Content	ISO 1172	Wt %	62	62	65

AVAILABLE PRODUCT RANGE

Construction	Bobbin	Metered Bobbin Nominal Weight Kgs/ Lbs	Partial Bobbin Minimum Weight Kgs / Lbs	Metered Bobbin Length Meters / Yards
ECG146 1/0 1.0Z	#31	4.5 / 9.8	1.8 / 4.0	118,800 / 130,000
ECG75 1/0 1.0Z	#31	4.5 / 9.8	1.8 / 4.0	62,900 / 68,800
ECG75 1/0 1.0Z	#53	9.3 / 20.5	4.5 / 10.0	128,800 / 137,600
ECG37 1/0 0.7Z	#31	4.2 / 9.3	1.8 / 4.0	30,300 / 33,100
ECG37 1/0 0.7Z	#53	8.6 / 19.0	4.5 / 10.0	59,850 / 65,500
ECK16.5 1/0 0.5Z	#31	4.1 / 9.0	1.8 / 4.0	13,260 / 14,500
ECK16.5 1/0 0.5Z	#53	8.6 / 19.0	4.5 / 10.0	28,300 / 31,000

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