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| ☐ BMC | ☒ Filament winding |
| ☐ LFT | ☐ Hand lay up |
| ☐ Pultrusion | ☐ LCM |
| ☐ SMC | ☐ Spray-up |
| ☐ Extrusion Compounding | ☐ Textile |
| ☒ Weaving | |
| ☐ Others | |

StarRov®

Direct Roving 086

Product description:

StarRov® 086 direct roving is manufactured by direct winding of continuous glass fibers of defined diameter into a cylindrical roving package. This product is characterized by a soft silane sizing compatible with polyester resins, as well as with vinylester and epoxy resins. StarRov® direct roving products with 086 sizing are designed to be used mainly as an input for weaving processes. They are easy to unwind with very low fuzz generation during processing, with excellent wet-out in the matrix resin and demonstrate superior fatigue characteristic in the composites.



Designation and technical data:

JM designation	Region	Glass type	Sizing designation	LOI content [%]	Moisture content maximum [%]	Linear density [yield / tex]	Filament diameter [µm]
PR 80 300 086	EU	E	086	0.50	0.15	1653 / 300	13.5
PR 80 410 086	EU	E	086	0.50	0.15	1210 / 410	15.5
PR 120 600 086	EU	E	086	0.60	0.15	827 / 600	15.5
PR 220 1200 086	EU	E	086	0.60	0.15	413 / 1200	16
PR 440 2400 086	EU	E	086	0.60	0.15	207 / 2400	16
PR 440 4800 086	EU	E	086	0.60	0.15	103 / 4800	23

Resin compatibility:

Epoxy, unsaturated polyester and unsaturated polyvinylester resins

Benefits:

- Uniform unwinding
- Outstanding processing behavior in weaving
- Superior abrasion resistance
- Excellent wet-out characteristics
- World-class fatigue resistance



Bobbin dimensions:

	Inner diameter	Outer diameter	Height	Typical weight	Bobbin wrap
All 086 types	6"	12"	10"	44 lbs	Tack wrap
	160 mm	300 mm	255 mm	20 kg	Tack wrap

The values listed represent min level.

Packaging:

	Bobbins per pallet	Pallet weight appr.	Pallet dimensions	Packaging wrap
All 086 types	48	2112 lbs	50.6" x 37.4"	Stretch foil
	48	960 kg	1285 mm x 950 mm	

Storage:

It is recommended that the glass fiber products are stored in a cool and dry environment. Recommended temperature range of storage is 10°C - max. 30°C (50°F - max. 86°F) and relative humidity between 50 – 75%. The glass fiber products should remain in the packaging until just prior to use. The pallets should be single stacked.

Values:

All data represent typical average values.

Warranty disclaimer:

The physical (or chemical) properties of Johns Manville products represent typical average values obtained in accordance with accepted test methods at the time of manufacture and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Check the Johns Manville office to assure current information. For a copy of the Johns Manville Limited Warranty and Limitation of Remedy or other product information, contact your local Sales Representative.



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