

Flexible tapes

Fusa-Fab®

- ▶ Excellent Flexibility
- ▶ Excellent abrasion resistance
- ▶ Excellent resistance to refrigerants
- ▶ Excellent resistance to moisture, oil and solvents
- ▶ Applications through 180°C

General description

Fusa-Fab® glass cloth products are impregnated with a polyester resin and B-staged for use in applications through 180°C. Fusa-Fab® treated glass cloth products provide an economical and uniform alternative to untreated fabrics through reduced processing time by eliminating the need for multiple varnish dips.

Application

Fusa-Fab® products are suggested for use as tough, rigid, armor tapes after cure on DC field and commutating pole coils, and compensating pole windings. Fusa-Fab® products may also be used for insulating studs or bolts, forming spool bodies, and the manufacture of laminates for use as terminal boards. Fusa-Fab® products have excellent resistance to refrigerants and may be used as phase insulation in hermetic motors. They are suited for armor on slot section, under tie cords of silicone rubber insulated AC coils, and as layer insulation in small specialty transformers. A cured Fusa-Fab laminate may be machined to close tolerances and is suitable for use under slip rings and as transformer core insulation.

Processing

Fusa-Fab® products are available with or without (P version) a separator layer and may be supplied by conventional machine taping equipment. In the B-stage state, Fusa-Fab tapes are highly flexible and conform well to irregular shapes. In the cured state, the Fusa-Fab products yield a rigid laminate highly resistant to attack by abrasion, moisture, oil and solvents.

Fusa-Fab tapes are suitable for hand or machine application. In machine application the use of plastic guides or rollers is suggested. The standard versions, containing a separator, have a high surface tack for best layer-to-layer bond but will require a take-up roll for the separator layer when machine applied.

Health and safety

Material Safety Data Sheets defining the known hazards and describing safety precautions appropriate for this product are available upon request from Von Roll USA, Inc., 200 Von Roll Drive, Schenectady, New York 12306; (518) 344-7100. Similar information sheets for solvents and other chemicals used with this product may be obtained from the appropriate supplier and used accordingly.

Shelf life

Fusa-Fab® tapes should exhibit no shelf life limitations when stored for periods of up to six months under normal storage conditions of 77°F (25°C) and 50% relative humidity, or for up to one year when stored under refrigeration at 45°F (7°C).

Specifications

The properties shown above are typical values only, and should not be used as a basis for preparing specifications. Contact our Customer Service department, (518) 344-7100 for assistance in preparation of specifications for your specific system application.

Availability

Fusa-Fab® products is available in sheets, rolls, or as a slit tape from 1/2" to 36" wide. This product is available from Von Roll USA, Inc. or from authorized Von Roll distributors. For the name of your distributor or for more information on this product, contact the Customer Service Department, (518) 344-7100.

Properties Before Cure

		76504/ 76504P	76003/ 76003P	76576	76590 76590P	76591/ 76591P	76592
Dimensions							
Glass Fabric Thickness	mils (mm)	4 (0.102)	7 (0.178)	17 (0.432)	4 (0.102)	7 (0.178)	17 (0.432)
Total Thickness	mils (mm)	6 (0.152)	10 (0.254)	22 (0.559)	6 (0.152)	10 (0.254)	22 (0.559)
Thermal Properties							
Thermal Class	°C	155	155	155	180	180	180
Weight							
Total Weight	lb/yd ² (g/m ²)	0.38 (206)	0.76 (411)	1.58 (856)	0.38 (206)	0.76 (411)	1.58 (856)
Mechanical Properties							
Tensile Strength, Warp	lbs/in (N/cm)	150 (667)	300 (1335)	600 (2670)	150 (667)	300 (1335)	600 (2670)

Cure

Fusa-Fab® products will cure at temperatures above 260°F (125°C). The following times for cure schedules are suggested. Additional time, dependent on mass, should be allowed to attain the desired temperature.

Cure Temperature °F (°C)	Cure Time, hours
257 (125)	1 - 1½
275 (135)	¾ - 1
302 (150)	¼ - ½

Typical Properties After Cure

		Value	Test norm
Flexural Strength,	lb/yd ² (Mpa)	48000 (331)	
Tensile Strength,	lb/yd ² (Mpa)	36,000 (248)	
Compressive Strength	lb/yd ² (Mpa)	(414)	
Water Absorption			
24 hour immersion at 75°F (24°)	%	0.5	
Dielectric Strength, Short Time	V/mil (kV/mm)	800 (31.5)	ASTM D-149
Dissipation Factor, 60 Hz, 1000 v	%		ASTM D-150
73°F (23°C)		1.5	
212°F (100°C)		3	
Dielectric Constant			ASTM D-150
73°F (23°C)		5.3	
212°F (100°C)	5.8	5.8	
Insulation Resistance, 500 v DC	Ohm-cm		ASTM D-257
73°F (23°C)		3 x 10 ¹⁵	
212°F (100°C)		1 x 10 ¹⁴	

The product properties set forth in this data sheet are based on the results of testing of typical material produced by the affiliated companies of Von Roll Holding Ltd. (underneath referred as Von Roll). Some variation in product properties is typical. Comments or suggestions relating to any subject other than product properties are offered only to call the end-user's or other person's attention to considerations which may be relevant in the independent determination of the use and/or manner of use of product. Von Roll does not claim or warrant that the use of its product will have the results described in this data sheet or that the information provided is complete, accurate or useful. The user should test the product to determine its properties and its suitability for the intended use. Von Roll expressly disclaims any liability for any damage, harm, injury, cost or expense to any person resulting directly or indirectly from that person's reliance on any information contained in this data sheet. Nothing contained in this data sheet constitutes representation or warranty as to any matter whatsoever. Von Roll makes no warranties whatsoever in this data sheet, expressed or implied, including any implied warranty or fitness for a particular use or purpose. Von Roll shall in no event be liable for incidental, exemplary, punitive or consequential damages.