

resin

Permafil® 74041

- ▶ High performance epoxy resin
- ▶ High thixotropic index; good penetration and retention
- ▶ Excellent chemical resistance; ideal for harsh environments
- ▶ High film build, single process
- ▶ Excellent bridging and gap filling characteristics
- ▶ Excellent bond strength
- ▶ UL system recognition up to 200°C
- ▶ High flash point; used in VPI or dip tank applications
- ▶ Low Volatility/Reduced Odor; reduces OSHA and EPA concerns

General description

Permafil® 74041 is an extremely versatile, single component catalyzed epoxy resin for use in electric motor insulation systems up to 8kV or as an over dip for environmental protection. Its stable nature, good film formation, and ease of use, along with its good electrical properties, make it an excellent choice for many different applications.

Application

Permafil® 74041 is very resistant to most chemicals and has very low moisture absorption. It is widely used in both OEM and motor repair facilities where its properties make it ideal for marine, chemical, paper mill and hermetic applications. Its thixotropic nature results in an excellent retention in the coil as well as an average .003" to .004" build on the surface of the device. Although normally used in VPI process equipment, it is stable under normal conditions at room temperature and can be used in standard dip tank equipment. 74041 epoxy resin is often used in conjunction with our Mica Mat ®77986 mica tape in systems for medium voltage motors up to 7.2kV design.

	Value	Test norm
Mechanical properties		
Bond Strength (Helical Coil) MW-35 @ 25°C	lbs(N) 42 (186)	ASTM D-2519
Bond Strength (Helical Coil) MW-35 @ 130°C	lbs(N) 10 (44)	ASTM D-2519
Bond Strength (Helical Coil) MW-35 @ 155°C	lbs(N) 7 (31)	ASTM D-2519
Bond Strength (Helical Coil) MW-35 @ 180°C	lbs(N) 5 (22)	ASTM D-2519
Electrical properties		
Dielectric strength, Short Time	V/mil(kV/m) >2000 (78.7)	ASTM D-115
Dissipation factor @ 25°C tg delta	% .28	ASTM D-150
Weight		
Total weight	lbs/gal. (kg) 9.2 (4.2)	
Physical properties		
Flash point	>210°F (99°C) Pensky Martins Closed Cup	
Volatile content	lbs/gal. (kg) 1.1 (0.50)	ASTM D-6053
Film build on steel (avg.)	mils (mm) 3.5 (0.09)	
Gel time (Sunshine) @ 150°C	minutes 10-12	
Specific Gravity 77°F(25°C)	1.11	
Thixotropic Index	3-4	
Viscosity (Brookfield) 77°F (25°C) 20 rpm	cps 2000-3000	
Viscosity (Brookfield) 77°F (25°C) 2.5 rpm	cps 4000-8000	

Processing

Permafil® 74041 resin can be used in conventional or automated dip and bake process and in VI or VPI equipment. For suggested cycle times and process specifics, please contact Von Roll Isola USA, Inc.

Suggested Cure Cycle: 4-5 hours at 320°F (160°C). Chemical resistance can be improved by longer cure times.

(These times apply to small units. For larger equipment, the time for the part to reach the desired curing temperature should be added to these suggested cure times.)

Storage Conditions

Permafil® 74041 resin can be expected to stay within its specified gel time limits when stored for up to 12 months at 77°F (25°C). In normal use, shelf life is indefinite with adequate addition of fresh material. For process purposes in VPI equipment, the suggested storage temperature is 68°F (20°C).

Order Data

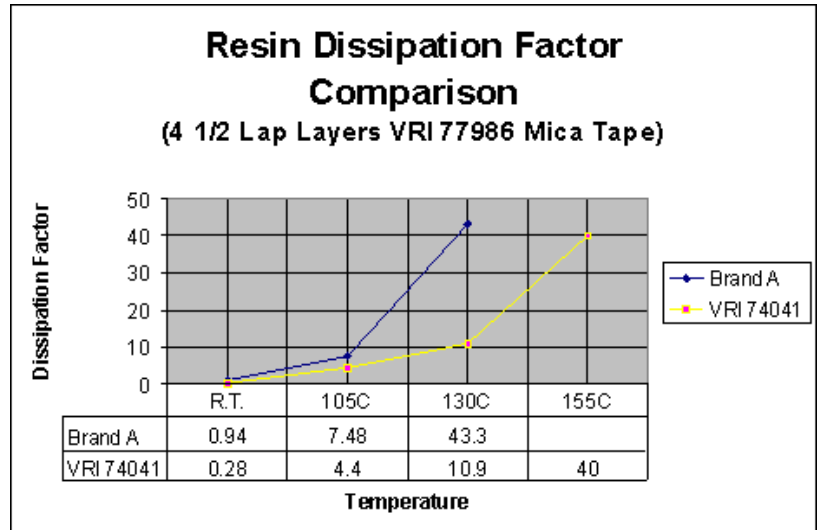
Permafil® 74041 resin is available pre-catalyzed in 55-gallon drums or uncatalyzed in 5 and 55-gallon containers. This product is available from Von Roll USA, Inc. or from authorized Von Roll distributors. For the name of your distributor or for more information on this product, contact our Customer Service department, (518) 344-7100.

Standards

The properties shown in this data sheet 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.

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.



Average helical coil bond strength after 168 hour immersion

R.T.	155°C	R.T.	155°C	R.T.	155°C	R.T.	155°C
Control		20% Sodium Sulfate		30% Hydrochloric Acid		20% Potassium Chloride	
68.7	7.6	29.7	7.6	55	8.5	35.9	9.1
Stock Acidic		White Liquor		Black Liquor		Green Liquor	
30.6	6.8	31.7	6.8	43.3	7.8	29.3	6
30% Sulfuric Acid		20% Ammonium Nitrate		20% Ammonium Sulfate		10% Sodium Chloride	
37.3	7.4	69.8	7.3	62.6	7.5	52.3	6.3
20% Muriate of Potash		6% Boric Acid		15% Potassium Sulfate			
34.7	8	42.9	7.4	46.1	7.6		

Specifications

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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 of fitness for a particular use or purpose. Von Roll shall in no event be liable for incidental, exemplary, punitive or consequential damages.

Electrical Characteristics

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74041