3MTM Thermal Shield Insulating Paper

Data Sheet

August 2015

Description	3M [™] Thermal Shield Insulating Paper is a polyphenylene sulfide (PPS) based calendered paper. It is designed for use in applications requiring long-term exposure to high temperatures. The paper is resistant to some chemicals, including oils, solvents, and most acids and bases. Thermal Shield paper may be laminated to polyester or polyimide film or resin-coated for enhanced performance.					
Features	 Excellent chemical resistance Low moisture absorption Thickness: 2 mil (0.06 mm) to 5 mil (0.13 mm) 					
Agency Approvals	UL 1446 Systems Recognition thorough Class 220(R) IEC qualified Electrical Insulation Systems per IEC 61857					
	Thermal Shield paper has undergone extensive thermal aging evaluation per UL 1446, "Standard for Systems of Insulating Materials – General," and as a result, is UL Recognized as suitable for use as major ground insulation in systems rated through Class 220(R).					
	UL Recognized Insulation Systems are listed under File No. E65007 in the OBJS2 category for Class 180(H), 200 (N) and 220(R) applications. This file is also recognized by UL as being in compliance with International Electrotechnical Commission (IEC) Publication 60085, "Thermal Evaluation and Classification of Electrical Insulation."					
Regulatory	 Thermal Shield paper is: REACH compliant. Product contains no Substances of Very High Concern (SVHC's) on the REACH candidate lists according to article 59 of Regulation (EC) No 1970/2006 up to June 2013 For current status, go to <i>www.3M.com/REACH</i> ROHS Meets MCVs 2011/65/EU. "ROHS meets MCVs" means that the product or part does not contain any of the substances in excess of the maximum concentration values ("MCVs") in EL RoHS Directive 2011/65/EU. The MCVs are by weight in homogeneous materials. The above information represents 3M's knowledge and belief which may be based in whole or in part on information provided by 3rd party suppliers to 3M. 					
Applications	 Electrical insulation laminates for automotive motor powertrains Layer or turn insulation in dry type transformer coils Filtration 					

• Loudspeaker voice coils



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Typical Properties

Data is not for specifications. Values are typical and should not be considered minimum or maximum. Properties measured at room temperature 73°F (-23°C) unless otherwise stated.

3M™ Thermal Shield Typical Product Properties							
						ASTM TEST METHOD	
Nominal Thickness	mil mm	2 0.06	3 0.08	4 0.10	5 0.13	D-374	
Basis Weight	g/m ² lb/yd ²	45 0.08	66 0.12	90 0.17	116 0.21	D-202	
Tensile Strength, MD	N/cm lb/inch	16 9	21 12	28 16	42 24	D-828	
Tensile Strength, CD	N/cm lb/inch	5 3	9 5	12 7	19 11	D-828	
Elongation, MD	%	18	14	12	15	D-828	
Elongation, CD	%	7	5	5	6	D-828	
Dielectric Strength	V	350	450	500	600	D-149	

Availability

 2 and 3 mil thicknesses are available in widths up to 46". 4 and 5 mil thicknesses are available in widths up to 44". Customized basis weights and thicknesses are available to meet specifications for unique applications.

 Please contact your local distributor; available from 3M.com/flexibleinsulation [Where to Buy] or call 1-866-357-2737 or call 1-800-245-3573.

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