



HYSOL[®] PC20M & PC20-35M

Repairable Acrylic Printed Circuit Coating

Formerly Dexter

Description

HYSOL[®] PC20M & PC20-35M are stable, clear materials, suitable for continuous operation up to 110°C. It may be applied by brush, spray, or dip to electrical parts for improved moisture and environmental protection. Components and joints may be repaired by heating the coating with a soldering iron for easy removal, or the entire coating may be removed with a suitable solvent. When fully cured, PC20M & PC20-35M exhibit superior toughness and abrasion resistance. Even after long exposure to the elements, the coating retains its very light color.

Military grades are qualified to meet the requirements of MIL-I-46058C, Type AR.

Specification of Product	PC20M	PC20-35M	Test Method
Color, maximum	Gardner 2	Gardner 2	STP 4D
Color	Amber	Amber	Visual
Solids content, %	45 ± 2	35 ± 2	ASTM D 115
Flash Point, °C	11	11	FISHER C.C.
Specific Gravity @ 25°C (77°F)	0.94-0.03	0.91-0.03	STP 9A
Viscosity @ 25°C, (77°F), Brookfield RVF			STP 2A
Spindle 4, Speed 20, cps	1500-2500		
Spindle 2, Speed 10, cps		200-600	
Shelf Life @ 25°C, (77°F) months (unopened, minimum from date of shipment)	12	12	

TYPICAL CURED PROPERTIES

Values are not intended for use in the preparation of specifications. All determinations are conducted in accordance with MIL-I-46058C and ASTM procedures. All measurements are taken at 25°C, unless otherwise noted.

Cured physical Characteristics (Per Mil-I-46058C)

Appearance – No blistering, wrinkling, cracking or peeling of film. No discoloration of printed conductors or substrate after thermal shock, or after moisture resistance testing.

Flexibility – No cracking over 1/8” diameter mandrel.

Film thickness – Adjustable from 0.001 to 0.004 inches.

Fungus resistance – Non-nutrient per ASTM G21.

Fluorescent when viewed under ultraviolet light (black light).

Cured Electrical Properties (Per Mil-I-46058C)

Insulation Resistance, ohms (1 – 3 mil film)	PC20M & PC20-35M
Initial (25°C – 50% R.H.)	$>2.3 \times 10^{14}$
4 th Cycle (65°C – 95% R.H.)	5×10^{11}
7 th Cycle (65°C – 95% R.H.)	4×10^{10}
10 th Cycle (65°C – 94% R.H.)	1×10^{10}
24 Hrs after 10 th Cycle (25°C – 50% R.H.)	3.5×10^{12}

Dielectric withstand at 1,500 volts, 50 Hz – no flash over or breakdown before or after thermal shock and moisture exposure.

Leakage Rate: Less than 10 microamperes before and after thermal shock and moisture exposure.

				PC20M & PC20-35M Test Method
Dielectric Strength, volts/mil			2000	ASTM D149
Dielectric Constant	@ 25°C	100 Hz	2.78	ASTM D150
	@ 60°C	100 Hz	3.67	
	@ 90°C	100 Hz	3.54	
	@ 110°C	100 Hz	3.42	
	@ 25°C	10 KHz	2.36	ASTM D150
	@ 60°C	10 KHz	2.74	
	@ 90°C	10 KHz	3.43	
	@ 110°C	10 KHz	3.41	
	@ 25°C	100 KHz	2.29	
	@ 60°C	100 KHz	2.39	
	@ 90°C	100 KHz	2.89	
	@ 110°C	100 KHz	3.24	

PC20M & PC20-35M Test Method

Dissipation Factor	@ 25°C	100 Hz	0.079	ASTM D150	
	@ 60°C	100 Hz	0.036		
	@ 90°C	100 Hz	0.003		
	@ 110°C	100 Hz	0.014		
	@ 25°C	10 KHz	0.027	ASTM D150	
	@ 60°C	10 KHz	0.110		
	@ 90°C	10 KHz	0.064		
	@ 110°C	10 KHz	0.015		
	@ 25°C	100 KHz	0.012	ASTM D150	
	@ 60°C	100 KHz	0.062		
	@ 90°C	100 KHz	0.132		
	@ 110°C	100 KHz	0.089		
	Volume Resistivity, volts/mil				ASTM D257
		@ 25°C		1.04 x 10 ¹⁵	
@ 60°C			3.89 x 10 ¹⁴		
@ 90°C			2.86 x 10 ¹³		
@ 110°C			9.25 x 10 ¹²		

Handling

Drying and curing of the coating depends upon evaporation of the solvent. Air dry coated boards at least 30 minutes at 25°C to remove solvents before curing in oven or before applying additional coats.

Cure Schedules

Recommended cure – 45 minutes at 75°C (167°F)

Alternate cure – 24 hours at 25°C (77°F)

Some variation in listed values may occur; customer should determine whether cure other than recommended above will give satisfactory results. **Deaeration is not suggested**

Apply by brush, dip or spray. Cleanliness of the substrate is paramount in promoting adhesion and preventing under-film corrosion of copper conductors.

Viscosity may be reduced when desired with Hysol[®] AC0305 thinner. Other solvents such as methyl ethyl ketone, methoxy propyl acetate, xylene and toluene can be used alone or as a mixture depending on how coating will be applied and drying time desired. The evaporation rate of some recommended solvents starting with the fastest are as follows: methyl ethyl ketone – toluene – xylene - Hysol[®] AC0305 – methoxy propyl acetate. Dilutions of 15-20% will generally be sufficient for most applications.

Uncured PC20M & PC20-35M may be cleaned up with ketones or those solvents listed above. Cured coatings can be removed with toluene, isopropyl alcohol, or ketones.

Keep containers closed to avoid contamination and solvent evaporation.

Store in dry place at 21°C to 32°C (70°F to 90°F).

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For additional information in the Americas, please contact one of the following locations:

New York

TEL: 716.372.6300

FAX: 716.372.6864

Canada

TEL: 905.814.6511

FAX: 905.814.5391

Brazil

TEL: 011.55.11.4143.7000

FAX: 011.55.11.4143.7100

For a complete listing of worldwide locations and information on related products, please visit our website www.loctite.com/electronics

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Users should review the Material Safety Data Sheet (MSDS) and product label for the material to determine possible health hazards, appropriate engineering controls and precautions to be observed in using the material. Copies of the MSDS and label are available upon request
