

# Phenolic Selection Chart

<b>Construction Reinforcement Resin</b>	<b>Applications</b>	<b>Features</b>	<b>Military Specs and Type</b>	<b>Nema Grade</b>	<b>Grade</b>	<b>Color</b>
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<b>Paper Phenolic</b>	Mechanical grade, intricate punch parts, insulating washers, switch bases, terminal boards	Requires little to no preheating, good warm shearing, warm punch, U.L. listed, File #E141228	MIL-I-24768/19 PBM-P	XP XP XP	H-27095 * H-27096 * H-27102	Natural Black Chocolate
	Mechanical grade, intricate punch parts	Excellent cold punch cold shearing	MIL-I-24768/20 PBM-PC	XPC XPC	H-18332 H-18333	Tan Black
	Mechanical grade, Jigs, templates	Non Nema. Economy Grade	N/A	N/A	H-27028	Natural
	Electrical grade – tap changer boards, transformers	Low 60 cycle power – factor, low cold flow, dielectric constant			H-18720	Natural
	Electrical grade, switch board panels, relay and switch bases, breaker arms, barriers	Electrical insulation in dry or humid conditions, good machining, fair mechanical strength	LP-5130C PBG MIL-I-24768/11 PBG	XX XX	219 429	Natural Black
	Electrical grade, punch parts, radio and TV terminal boards, panels	Cold punch and shearing, high insulation resistance and low dielectric losses under severe humidity. U.L. listed as HO3	LP-513-C PBEP MIL-I-24768/23 PBE-PC	XXXPC	H-5639	Natural

<b>Fine Weave Cotton Cloth Phenolic</b>	Intricate machine grade low surface wear – bearings	Linen with PTFE – high limiting pressure velocity (PV) low surface wear			H-27126	Natural
	Electrical-mechanical grade, marine relay bases, terminal bases and strips, radio parts, high humidity applications	Electrical and mechanical strength, moisture resistance	MIL-I-24768/13 FBE	LE	H-27024 H-27027	Natural Black
	Mechanical grade – for fine machined parts, gears, radio parts, terminal boards	Fine weave canvas where better than CE machining characteristics are required and grade L cannot be justified			H-25126	Natural

<b>Medium Weave Cotton Cloth Phenolic</b>	Mechanical grade – gears, pinions, spacers, structural applications	Economy grade, high impact strength, good mechanical properties	MIL-I-24768/16 FBM	C C	H-26000 H-25045	Natural Black
	Mechanical-electrical grade, small gears, pinions, radio parts, marine switch board panels	Economy grade, good acid resistance, low voltage, low frequency electrical performance	MIL-I-24768/14 FBG	CE CE	51F33 H-27108	Natural Black
	Mechanical grade, marine bearings, pistons and packing rings, pump valve, doctor blades, marine Micarta®	Low moisture absorption, dimensional stability	MIL-P-18324		223	Natural
	Mechanical grade, packing rings, pistons, bearings, electrical applications	Canvas with molybdenum disulfide, low coefficient of friction			H-13020	Green
	Mechanical grade, pistons, packing rings, textile mill bearings	Canvas with graphite, self-lubricating, low coefficient of friction	MIL-P-5431-A-AS		400	Black
	Mechanical grade, pistons, packing rings, textile mill bearings, non-electrical applications	Canvas with graphite, self-lubricating, low coefficient of friction			H-24889	Black
<b>Glass Phenolic</b>	Structural applications, seals, gaskets-resist acids	Excellent strength, excellent heat resistance, high impact, low moisture	MIL-I-24768/18 GPG	G-3	H-19989	Natural
<b>Glass Melamine</b>	Electrical-mechanical grade, marine switch board panels, structural parts	High mechanical strength, high arc and heat resistance, self-extinguishing, excellent electrical properties under dry and humid conditions	MIL-I-24768/1 GME	H-12426	Gray	

<b>Glass Silicone</b>	Electrical grade, class H insulation, heating applications insulation	Good electrical properties under humid conditions, excellent heat and arc resistance, self-extinguishing	MIL-I-24768/17 GSG	G-7  N/A	H-17825  H-25219	White  White		
			<b>Glass Epoxy</b>	Electrical-mechanical grade, terminal boards, high humidity applications	High flexural, impact and bond strength at room temperatures, good electrical properties under dry and humid conditions, U.L. 94V-O	MIL-I-24768/27 GEE-F	FR-4	H-22033  H-26955
Electrical-mechanical grade, rotor, slot insulation, structural members at elevated temperatures	High mechanical strength at temperatures up to 150°C, retains 50% of its flexural strength at elevated temperatures	MIL-I-24768/3 GEB				G-11	H-26671	Natural
		Electrical-mechanical grade, high humidity applications, power generation and transmission components				High flexural, impact and bond strength at room temperatures, good electrical properties under dry and humid conditions, non-brominated resin system	MIL-I-24768/2 GEE	G-10
<b>Static Dissipative Glass Epoxy (Statnot TM)</b>	Static dissipative grades, protecting static-sensitive electronic applications such as: automated test equipment, assembly fixtures, solder pallets, carrier plates, enclosures, work surfaces		High strength, printable surface, excellent dimensional stability, five times the stiffness of leading thermoplastics, eliminates cracking and chipping, uniform thickness of ESD, cost-effective.	ESD Throughout	High Temp.		H-27210	Black
		ESD One sided		FR-4 Core	H-27227	Black		
		ESD Two sided		FR-4 Core	H-27228	Natural  Black		