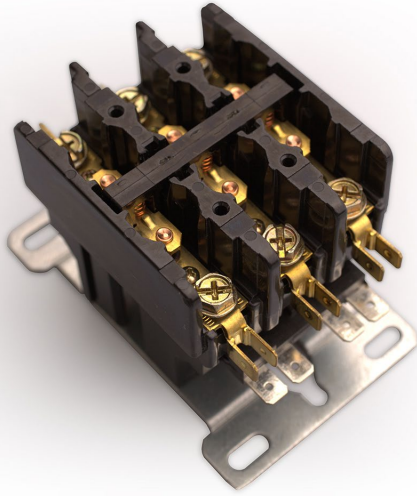


03000 Series

Electrical Grade Phenolic Materials

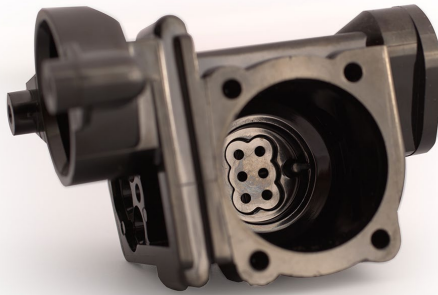
Electrical Grade Phenolic Materials



Plenco's 03000 series

03000 products are mineral and organic-filled phenolic molding materials. Their formulations are designed to improve arc tracking resistance and provide UL flammability suitable for unattended electrical devices. They offer excellent mechanical properties, heat resistance and dimensional stability, while maintaining a low cost per cubic inch.

Formulations are available with single-stage and two-stage phenolic resins and in multiple flow grades for optimized injection, transfer and compression molding.



Applications

Plenco 03000 materials are generally specified where dimensional stability is critical for maintaining contact spacing across a range of temperatures. Their high compressive strengths, high modulus and low shrink rates make them well suited for both insert molding contacts and molded-in threads. High surface hardness and optional PTFE lubricants makes them an excellent choice for sliding or rotary switch components.

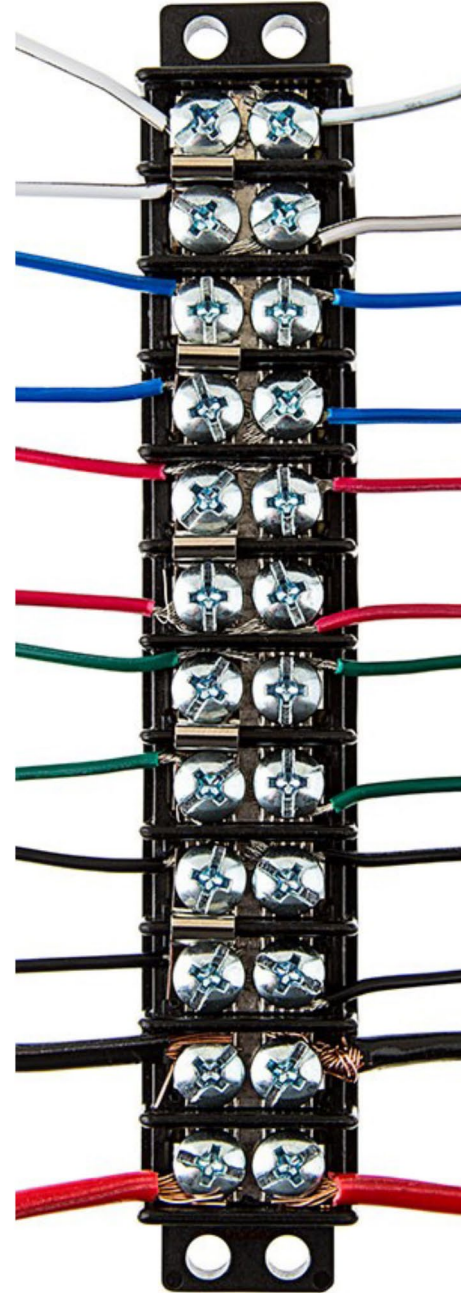
Two-stage resins are chosen for their long shelf life and easy processing. Single-stage resins are selected when ammonia outgassing might corrode precious metal contacts, and for wet/dry applications.

Plenco customers have successfully used our 03000 materials to produce industrial and commercial terminal blocks, fuse holders, small appliance components, switch housings, rotary switch components and automotive electrical components.



Data Sheet Property Ranges* - Plenco 03000 series

PROPERTY	ENGLISH	ASTM METHOD
Form	Granular	
Apparent Density (lb/ft ³)	39.5 - 42.3	D1895
Specific Gravity	1.39 - 1.60	D792
Mold Shrinkage	0.0023 - 0.0081**	D955
Post Shrink	0.08% - 0.44%	D1299
Izod Impact-notched (ft*lb/in)	0.30 - 0.39	D 256
Charpy Impact - notched (ft*lb/in)	0.32 - 0.42	D256
Tensile Strength (psi)	6,800 - 8,700	D638
Tensile Modulus (msi)	1.0 - 1.6	D638
Tensile Elongation (%)	0.45 - 0.95	D638
Flexural Strength (psi)	10,400 - 14,600	D790
Flexural Modulus (msi)	1.0 - 1.5	D790
Compressive Strength (psi)	22,300 - 29,200	D695
Rockwell Hardness (E scale)	76 - 85	D785
Heat Resistance (°F)	360 - 412	D794
Heat Deflection - 1.82MPa (°F)	324 - 383	D648
Water Absorption (%)	0.11 - 0.54	D570
Dielectric Strength - ST (V/mil)	260 - 441	D149
Comparative Tracking Index (V)	150 - 175	D3638
ASTM Arc Resistance (sec)	130 - 180	D495
UL Flammability (@1.47mm)	HB - V-0	UL 94
CTE by TMA - 40°C to 130°C (1/°F)	4.7 E-05 - 5.8 E-05	
Thermal Conductivity @ 212°F	0.26 - 0.34 (Btu/hr/ft/°F)	
Poisson's Ratio in Tension	0.33 - 0.36	



Please consult your Plenco Technical Sales Representative for specific material details. Fitness for use must be determined by the end user.

* Properties listed above are the range of properties available from Plenco material data sheets. The range was taken from injection, compression and transfer molded sample data as available on www.plenco.com.

**Mold shrinkage values are generated under controlled laboratory conditions. Values provided above are for reference only and should not be used to build molds