

l i g h t i n g m a r k e t



lighting

Thermoset SMC is ideal for high-intensity discharge (HID) lighting fixtures, from architectural to safety applications. The material's dielectric properties are a strong attribute for these applications, as well as its high total reflectance (TR) value. Parts consolidation also makes SMC an attractive material for lighting applications, as manufacturers are able to mold terminal blocks directly into the fixture with no secondary operations. In addition, tremendous cost savings can be realized by directly molding reflectors with the thermoset material.

SMC can be found in outdoor HID lighting, where exposure to moisture and UV are key environmental considerations. SMC is also corrosion- and stain-resistant, and offers molded-in color which, in the case of highly-reflective white coloration, can dramatically enhance the effectiveness of the fixture. For indoor HID lighting, SMC offers light weight, high TR values, and the ability to hold accurate dimensions for applications such as warehouses, stadiums, and gymnasiums. Most important, SMC is UL-approved for flame retardance.

SMC offers distinct advantages over alternative materials, including:

- **Structural rigidity and weight**, is important for maintaining shape for the proper fit of gaskets
- **Resistance to natural elements**, such as salt water and corrosive chemicals
- **Resistance to UV deterioration** for outdoor applications
- **Highest flame retardant value available**, gaining a UL approval, for SMC
- **Ability to mold to net shape** due to zero shrinkage

e n g i n e e r e d f o r p e r f o r m a n c e

Property	Unit	Test Method	44-10TR	48-50	M-204	E-204
Physical and Mechanical Properties						
Impact Strength	FT-LBS/IN	ASTM D 256	4-5	4-5	10	12
Flexural Strength	PSI	ASTM D 790	15-17,000	14-16,000	24,000	23,000
Flexural Modulus	10 ⁶ PSI	ASTM D 790	--	2.0	1.7	1.6
Tensile Strength	PSI	ASTM D 638	6,000	6,000	11,000	11,000
Compressive Strength	PSI	ASTM D 695	21,000	24,000	26,000	27,000
Water Absorption	%	ASTM D 570	0.15	0.11	0.10	0.10
Shrinkage	IN/IN	ASTM D 955	0.001-0.003	0.001-0.003	0.001	0.001
Specific Gravity	G/CM ³	ASTM D 792	1.96	1.93	1.81	1.78
Hardness	Barcol	ASTM D 2583	40-50	40-50	--	30-35
Bulk Factor App.	--	ASTM D 1895	1	1	1	1
Electrical Properties						
Dielectric Strength	KV/IN	ASTM D 149	--	320	340	380
Arc Resistance	Seconds	ASTM D 495	180+	190	--	180+
Thermal and Flame Retardant Properties						
Heat Deflection Temperature @264PSI	°F	ASTM D 648	>500	>500	>500	>500
Flame Resistance	--	UL 94	--	--	--	--
	@ 1/16"	--	94-HB	94V-0	HB	94V-0
	@ 1/8"	--	94-5V	94V-0	HB	94V-0
	@ 1/4"	--	94-5V	94V-0	V-0	94V-0

IDI Composites International is the premier global formulator and manufacturer of thermoset molding compounds for custom molders and OEMs. The company provides customized polyester/vinylester-based bulk molding compounds (BMC) and sheet molding compounds (SMC) for the world's most demanding markets, including automotive/truck, electrical, food service, alternate energy, and appliance.

Headquartered in a 200,000 square foot facility in Noblesville, IN (USA), IDI has a strong presence in the international thermoset composites market. To support a growing customer base world-wide, the company operates multiple wholly-owned manufacturing facilities in Europe, Asia, and The Americas.

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