

kitchen and bath



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Components utilized in kitchen and bath applications are constantly subjected to harsh chemical cleaners as well as the wear and tear of every day use. However, they are expected to maintain long life cycles and look as good as new for years. With applications ranging from sinks and shower stalls to kitchen stove handles, many designers are seeking replacement materials that out-perform metals.

Thermoset composite bulk molding compound (BMC) and sheet molding compound (SMC) are rapidly replacing metals as the material of choice for kitchen and bath components for a variety of reasons, including the rising cost of metals. Thermoset composites feature many attributes that make them ideal for kitchen and bath applications, both domestic and commercial:

- Cosmetic appeal
- Corrosion-resistant
- Stain-resistant
- Lightweight
- Low-cost

Thermoset composites offer design and cosmetic opportunities not available with many metals and ceramics. The material is solid but lightweight, resistant to damage, and can be molded in color. And, by converting to single-molded thermoset BMC or SMC, manufacturers can provide their customers with products that are void of normal cracks and seams, improving their cleanliness and appearance.

BMC and SMC are currently in use in numerous applications in the kitchen and bath market. Kitchen applications include countertops (with or without molded-in sinks), table tops, appliance components (including handles), and microwave cookware and turntables. Composites are also ideal for bathroom faucet bodies, shower stalls, and tubs.

engineered for performance

| Property | Unit | Test Method | 44-10 | 48-50 | M-205 | E-206 |
|---|---------------------|-------------|-------------|---------------------|---------------------|---------------------|
| Physical and Mechanical Properties | | | | | | |
| Impact Strength | FT-LBS/IN | ASTM D 256 | 4-5 | 4-5 | 13 | 16 |
| Flexural Strength | PSI | ASTM D 790 | 15-17,000 | 14-16,000 | 28,000 | 30,000 |
| Flexural Modulus | 10 ⁶ PSI | ASTM D 790 | -- | 2.0x10 ⁶ | 1.8x10 ⁶ | 2.0x10 ⁶ |
| Tensile Strength | PSI | ASTM D 638 | 6,000 | 6,000 | 13,000 | 16,000 |
| Compressive Strength | PSI | ASTM D 695 | 21,000 | 24,000 | 28,000 | 32,000 |
| Water Absorption | % | ASTM D 570 | 0.15 | 0.11 | 0.10 | 0.13 |
| Specific Gravity | G/CM ³ | ASTM D 792 | 1.96 | 1.93 | 1.78 | 1.72 |
| Shrinkage | IN/IN | ASTM D 955 | 0.001-0.003 | 0.001-0.003 | 0.001 | 0.001 |
| Hardness | Barcol | ASTM D 2583 | 40-50 | 40-50 | 40-50 | 40-45 |
| Bulk Factor App. | -- | ASTM D 1895 | 1 | 1 | 1 | 1 |
| Electrical Properties | | | | | | |
| Dielectric Strength | KV/IN | ASTM D 149 | -- | 320 | 380 | 340 |
| 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 | 94-HB | |
| | @1/8" | -- | 94-5V | 94V-0 | 94-HB | V-0 |
| | @1/4" | -- | 94-5V | 94V-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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