

food service market



food service

Equipment in the commercial food service industry must operate in a variety of adverse conditions. In addition to physical abuse and high heat, equipment must withstand corrosion resulting from acids and proteins found in food, as well as harsh chemical cleaners required to keep the equipment sanitary. Typical applications include fryers, steamers, meat cutters, and cabinets.

Thermoset composite bulk molding compound (BMC) and sheet molding compound (SMC) are rapidly replacing metals as the material of choice for designers and manufacturers of food service equipment for a variety of reasons, not the least of which is rising metals costs.

Thermoset composites can be molded in color, or can accept a variety of paint systems. Designers can also mold-in sub assemblies and smaller details to eliminate the need for final finishing, as required by metals. And, by converting to a single-mold thermoset BMC and SMC design, manufacturers can provide their customers with products that have a minimum of metal attachment areas, such as welds or bolts, promoting sanitary operation and drastically reducing the time required to clean the equipment.

Thermoset composites feature many other physical and mechanical attributes that make them ideal for the food service industry:

- **Heat-resistant:** maintains structural rigidity in extreme temperatures
- **Corrosion-resistant:** withstands corrosive substances commonly found in kitchen applications, cleaning materials, and foods
- **High strength-to-weight ratio:** thermoset components are up to 35 percent lighter than steel parts of equal strength
- **High dimensional stability:** maintains dimensional stability when exposed to extreme heat

engineered for performance

Property	Unit	Test Method	44-10	44-10MW	E-204	E-206	M-209
Physical and Mechanical Properties							
Impact Strength	FT-LBS/IN	ASTM D 256	4-5	3-4	12	16	23
Flexural Strength	PSI	ASTM D 790	15-17,000	13-15,000	23,000	30,000	38,000
Flexural Modulus	10 ⁶ PSI	ASTM D 790	--	--	1.6	2.0	2.0
Tensile Strength	PSI	ASTM D 638	6,000	5-6,000	11,000	16,000	19,000
Compressive Strength	PSI	ASTM D 695	21,000	18-20,000	27,000	32,000	36,000
Water Absorption	%	ASTM D 570	0.15	0.07	0.10	0.13	0.15
Specific Gravity	G/CM ³	ASTM D 792	1.96	1.90	1.78	1.72	1.62
Shrinkage	IN/IN	ASTM D 955	0.001-0.003	0.0005-0.0015	0.001	0.001	0.001
Hardness	Barcol	ASTM D 2583	40-50	25-35	30-35	40-45	45-55
Bulk Factor App.	--	ASTM D 1895	1	1	1	1	1
Electrical Properties							
Dielectric Strength	KV/IN	ASTM D 149	--	--	380	340	300
Arc Resistance	Seconds	ASTM D 495	180+	--	180+	180+	--
Thermal and Flame Retardant Properties							
Heat Deflection Temperature @264PSI	°F	ASTM D 648	>500	>500	>500	>500	>500
Flame Resistance	--	UL 94	--	--	--	--	--
	@1/16"	--	94-HB	HB	94V-0	94V-0	94-HB
	@1/8"	--	94-5V	HB	94V-0	94V-0	94-HB
	@1/4"	--	94-5V	HB	94V-0	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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