



case study



> Krix Loudspeakers

Problem

Krix Loudspeakers (www.krix.com.au) is Australia's largest manufacturer of cinema and high fidelity speakers. A key component of the company's theater products is the horn that transmits acoustic energy generated by the speaker diaphragm. In the past, all Krix speaker horns were made from hand laid up fiberglass, which is formed in slow and expensive operations.

Solution

Amtrade, IDI Composites' exclusive manufacturer and material supplier of thermoset bulk molding compound (BMC) in Australia, received a sample of BMC molded into a speaker housing during an IDI visit to its plant. After Amtrade reviewed the sample of the promising material alternative with the Australian molding firm, R.E. Davison (www.redavison.com.au), the molder approached and convinced Krix to switch from hand laid up fiberglass horns to BMC horns. A composite consisting of fiber reinforcement in a polymer resin, BMC provides excellent vibration dampening. BMC is also suitable for closed molding, allowing manufacturers like R.E. Davison to accurately produce complex shapes – like that of speaker horns – that can not be made from the composites used in hand laid up processes.

But R. E. Davison needed a special BMC formulation to meet critical flow requirements and other application criteria. So the molder worked with Amtrade to develop a BMC version offering the necessary balance of properties. At the end of an iterative process, Amtrade produced a material that flows through the intricate molding tools used to make the horns but does not cure too quickly or shrink too much during the manufacturing process.

engineered for performance

Results

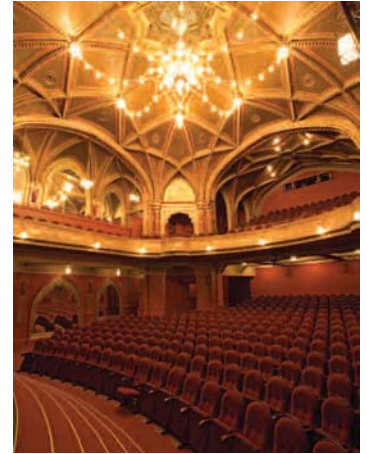
After conducting its own tests, Krix was pleased with the vibration dampening provided by BMC. The moderate price of the material also helps Krix stay within its tight cost constraints for manufacturing speaker horns. In addition, BMC can be painted so that the horns meet the company's demanding appearance requirements. All in all, Krix is so pleased with BMC that the material is now used to make the majority of the speaker horns it ships to customers all over the world.



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, electrical, appliance, food service, and energy.

IDI high-performance thermoset molding compounds are lightweight and exceptionally strong, exhibiting better strength-to-weight ratios than most metals. They are also corrosion resistant, creep resistant, and exhibit excellent thermal properties compared to engineered thermoplastic-based products.

Headquartered in a 200,000 square foot manufacturing facility and research center 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.



IDI's thermoset BMC materials have excellent vibration dampening properties making them ideal for use in speakers.

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