

Architectural Structure

Resin:	Vipel® K022 Bisphenol A Epoxy Vinyl Ester
Composite Application:	Entrance Arch
Diameters:	12 feet high, 24 feet deep and 70 feet wide (3.7 by 7.3 by 21.4 M)
Installed:	2001
Location:	Red Wing, Minnesota

The spectacular arched entranceway of the Treasure Island Hotel is a showcase for composites made with Vipel® K022 Bisphenol A Epoxy vinyl ester. RB Fiberglass, Lynwood, CA, specified the high performance AOC resin to satisfy requirements for high strength, light weight and flame retardance.

The entranceway is a series of composite beams arranged as a domed trellis that is 12 feet high, 24 feet deep and 70 feet wide (3.7 by 7.3 by 21.4 M). The high strength-to-weight ratio of composites made with Vipel® K022 vinyl ester is especially beneficial because the trellis is suspended from the ceiling on wires. The resin's inherent flame retardance achieves an ASTM E-84 Class 1 fire retardant and low smoke rating without using additives or synergists. RB Fiberglass used hand lay-up of resin-impregnated fiberglass mat to make the trellis beams.

The molds were made by forming luan board into curved channels. A formal garden look is achieved by pigmenting the resin white.

"The entranceway was the first time we used Vipel® vinyl ester", says Richard Brown, president of RB Fiberglass. "Our workers like the resin's processing characteristics so well, that we're now using the material to filament wind ducts and scrubbers. In addition to high strength, lightweight and flame retardance, Vipel® K022 vinyl ester will give these applications superior resistance to chemical attack."

