

MARKET

for composite solutions

VISION

TRANSPORTATION

Composite liner panels help reefer trailers keep cool and cargo safe

Refrigerated truck technology has considerably improved over time with reefer manufacturers developing more efficient and better insulated units which are lighter, stronger and more durable.

Reefer trailers¹ are used for the transport of perishable, temperature-sensitive cargo and maintaining optimum operating conditions inside the trailer is of utmost importance. Based in Chicago IL., Great Dane is an industry leading manufacturer of dry van, refrigerated and platform trailers. Their patented multi-layer ThermoGuard™ liner panel, used exclusively on Great Dane trailers, includes thermoplastic composite layers made using Owens Corning Performax® SE4849 Direct Rovings that provide strength, stiffness and impact resistance.

Thermally efficient and 300 percent more impact resistant

The strong, yet lightweight liner panel is superior to non-barrier liners in competing reefers since, by design it helps better maintain thermal efficiency of the trailer over its service life. A bonding scrim on the back side provides excellent adhesion to the polyurethane insulating foam.

“The composite layers seal and protect a patented metallic vapor barrier that greatly enhances resistance to permeable gasses significantly reducing ‘out gassing’ effects and resistance to water vapor that cause foam insulation to degrade over time”

says David Grant,

Marketing Director at Great Dane Trailers.



ThermoGuard™ liner panels made with Performax® 4849 Direct Rovings are almost 300 percent more impact resistant than competing thermoset liner panels.

The composite layers provide the panels' impact and puncture resistance needed to combat fork lift damage during loading/unloading and shifting cargo during transportation —thereby reducing damage to both trailer and consignment. In comprehensive tests, ThermoGuard™ made with Performax® 4849 Direct Rovings are significantly more impact resistant than competing thermoplastic liner panels, and almost 300 percent more impact resistant than competing thermoset liner panels.

Weight savings, bigger payloads, less fuel consumption

Used in the sidewalls, ceilings and subfloors of Great Dane reefers, ThermoGuard™ liner panels can also help prevent trailer weight gain caused by water vapor intrusion through the liner into the insulating foam—a process that can add 1000lbs or more to a semi-trailer's weight over time, leading to significant reductions in payload capacity. Combined with the significant cooling unit fuel savings the innovative panel allows in most types of refrigerated trailers, fleet operators can realize an average of 200 gallons per year in fuel savings during the life of the trailer.

¹ Colloquial term for refrigerated trailer.™ ThermoGuard is a trademark of Great Dane Inc.

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