

STRONGWELL®

TECHNICAL RELEASE

PULTRUDED PHENOLIC GRATING DURABILITY STUDY

Strongwell introduced DURAGRID® Phenolic pultruded grating into the offshore oil market in 1994, and recently obtained a 36" (91cm) long panel of this first generation grating for a strength and stiffness durability study. The test was performed on a randomly selected, first generation I6000-38mm panel from a 1996 installation on an offshore platform (TLP) in the Gulf of Mexico.

The panel was subjected to a three-point bend test, to failure, on a 30" (76cm) span, then retested to measure deflection and any remaining strength.

Upon failure at the test peak load of 6,372 lbs (2,890 kg), the panel was loaded to the industry-recognized 300 lbs (136 kg) load, where deflection measured 0.139" (3.5mm). The load had to be increased to 830 lbs to reach the industry-recognized deflection criteria of 0.25" (6.35mm).

Based on these results, DURAGRID® Phenolic pultruded grating was still capable of supporting loads higher than typical design loads despite panel failure and eighteen years of continuous service.

Conclusion:

Strongwell products, including DURAGRID® Phenolic pultruded grating, have been produced in conformance with quality standards that ensure the products meet, or exceed, published load table values at the time of production.

This durability study demonstrates that DURAGRID® Phenolic pultruded grating strength will meet and exceed industry-recognized, in-service design loads, for an 18-year, and counting, service life, and measured stiffness decreases are expected to be negligible.

DURAGRID® Phenolic pultruded grating is a structural alternative to steel and aluminum grating even when long-term durability is a concern. Additional benefits include fabrication requiring fewer tools, lighter in weight, measured strength against impact, measured fire resistance and strength retention at increased service temperatures, and a measured decrease in maintenance.



Generation 3 DURAGRID® Phenolic



Generation 1 DURAGRID® Phenolic (new)



Generation 1 DURAGRID® Phenolic (as tested)

Strongwell has worked to continually improve product strength, durability and impact resistance of DURAGRID® Phenolic pultruded grating. Based on material properties, current generation products should perform even better than first generation material in all aspects, including strength, impact resistance, overall durability and life expectancy. ●

