

STRONGWELL®

OFFSHORE GUARDRAIL/HANDRAIL

Strongwell offers a broad range of FRP (Fiber Reinforced Polymer) guardrail/handrail systems, in addition to its full line of molded and pultruded FRP grating, structural shapes and fabricated structures. Strongwell's fiberglass products are an ideal solution for your offshore needs.

SAFRAIL™ Guardrail/Handrail is ABS type approved per certificate # 13-HS1054287-PDA (for 2" Square and 1.9" Round configurations), and is available in Polyester, Vinyl Ester or Phenolic resin systems. As a full-FRP system (now including internal fixed and adjustable connectors), SAFRAIL™ Guardrail/Handrail meets or exceeds numerous safety standards (see next page for more details).



SAFRAIL™ Round Handrail



SAFRAIL™ Square Handrail



SAFRAIL™ Phenolic (available in round or square)



Strongwell® Wavezone Handrail

The introduction of SAFRAIL™ Phenolic Guardrail/Handrail is a dramatic innovation for markets where fire safety is a major concern; offering superior corrosion resistance, resistance to high temperatures, low smoke and low toxic fume emissions¹. The nonflammable nature of phenolics enable this guardrail/handrail to withstand higher temperatures than traditional FRP products for extended periods of time without major structural damage. Combined with very low thermal conductivity, SAFRAIL™ Phenolic Guardrail/Handrail offers the best strength-to-weight ratio for projects that require maximum weight optimization with fire protection not available from alternative materials.

SAFRAIL™ Phenolic Guardrail/Handrail is an excellent match for use with Strongwell's DURAGRID® Phenolic Grating, the first composite grating to receive U.S. Coast Guard approval for Level 2 (L2) installations.

¹ Toxicity levels comply with IMO

BENEFITS OF STRONGWELL FRP



Won't Rust, Rot or Corrode



Virtually Maintenance Free



Lightweight



Low Thermal Conductivity



Easy to Install



UV Resistant



Strong



Safe in Extreme Cold

PERFORMANCE STANDARDS	TEST SUMMARY
OSHA 1910.23 (U.S. Standard)	200 lb or 50 lb/ft
BS 14122-3 (British Standard)	300 N/m (20.6 lb/ft) with deflection limited to 30mm (1.18")
NORSOK C-002 and N-003 (Norway)	1.0 kN (225 lb) or 1.5 kN/m (100 lb/ft)
ASTM E985 (International)	890 N (200 lb) or 730 N/m (50 lb/ft) with deflection limited to [h/24 + L/96]
AS 1657 (Australian Standard)	550 N (125 lb) or 330 N/m (22.6 lb/ft)
NF E85-101 (PETROBRAS)	Total Horizontal Load of 400 lb at three locations or 600 N/m (41.1 lb/ft); Total Vertical Load of 225 lb at two locations; Horizontal Dynamic Test of 180 J

TESTING STANDARDS	RESULT SUMMARY
ASTM E84 (Flame Spread)	Class 1 flame rating of 25 or less
ASTM D256 (Izod Impact)	Performed between 20°C and -160°C
ASTM D638 (Tensile Properties)	Stress and Modulus vary with resin and profile
ASTM A112 (UV Degradation)	Tensile Strength Retained = 99.5% Impact Strength Retained = 98.4%

For more information about these certifications and how to use Strongwell's Offshore Guardrail/Handrail offerings in your next project or refurbishment job, please visit www.strongwell.com or contact Strongwell directly.



STRONGWELL.

ISO-9001 Quality Certified Manufacturing Plants



BRISTOL LOCATION

400 Commonwealth Ave., P. O. Box 580, Bristol, VA 24203-0580
+1(276) 645-8000

CHATFIELD LOCATION

1610 Highway 52 South, Chatfield, MN 55923-9799
+1(507) 867-3479

www.strongwell.com