



**GEF Incorporated**  
*Innovative Solutions in Fiberglass*

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# **DURAGRID® PHENOLIC**

## **FIRE INTEGRITY COMPOSITE GRATING**

### **THE OFFSHORE FRP GRATING STANDARD**



### **A HISTORY OF PROVEN DURABILITY**

Strongwell set the standard for Fiber Reinforced Polymer (FRP) Grating for the offshore market when it introduced DURAGRID® Phenolic Fire Integrity Grating in 1994. DURAGRID® Phenolic Grating was the first composite grating to receive U.S. Coast Guard (U.S.C.G.) approval for use in Level 2 locations and applications due to its fire resistance, low smoke and low toxicity. DURAGRID® Phenolic Grating meets the U.S.C.G. Policy File Memorandum 2-98 standards for Structural Fire Integrity Level 2 (L2) fire retardant grating and holds ABS, DNV, LR, GL and BV certifications. A recent Health and Safety Executive (HSE) Report raised concerns about the fire integrity of FRP grating vs. steel grating. This report was based on Level 1 testing requirements. Users and potential users of DURAGRID® Phenolic Grating can be assured that DURAGRID® Phenolic Grating has been tested and is certified to U.S.C.G. Level 2 for installation only for Level 2 and Level 3 requirements.



DURAGRID® Phenolic Grating has proven longevity and durability. DURAGRID® Phenolic Grating was first installed in an offshore application in 1994. Testing performed on this material more than 15 years after its original installation showed it still met all necessary standards. Since its inception in 1994, Strongwell has made continuous improvements to DURAGRID® Phenolic Grating, making today's product 40% stronger than when it was first introduced.

Unlike traditional materials such as steel, the structural properties of DURAGRID® Phenolic Grating are largely unaffected by the harsh environment presented by offshore applications. The nonflammable nature of phenolics enable this grating to withstand higher temperatures than traditional FRP products for extended periods of time without major structural damage. Combined with very low thermal conductivity, DURAGRID® Phenolic Grating offers the best strength-to-weight ratio for projects that require maximum weight optimization with fire protection not available from alternative materials.

All Strongwell manufacturing facilities are ISO-9001:2008 Quality Certified and ISO-14001:2004 Environmentally Certified. DURAGRID® Phenolic Grating is manufactured exclusively in the U.S.A.



## **DURAGRID® PHENOLIC FIRE INTEGRITY GRATING**

## **STEEL GRATING**

### **WEIGHT**

Lightweight - weighs 33% as much as comparable steel grating.

Can require special lifting equipment to move and place.

### **CORROSION**

Highly corrosion resistant. In many applications, FRP can last indefinitely without significant property loss.

Subject to oxidation and corrosion. Continual deterioration over time can dramatically reduce material properties.

### **STRENGTH**

Can carry more than twice the load of equivalent steel grating.

Less than half as capable of carrying weight vs. equivalent DURAGRID® Phenolic Grating.

### **ELECTRICAL CONDUCTIVITY**

Low electrical conductivity properties - high dielectric capability.

Conducts electricity. Potential shock hazard.

### **THERMAL CONDUCTIVITY**

Very low thermal conductivity and thermal expansion to prevent unsafe "hot areas".

Highly thermally conductive.

### **IMPACT**

Has "memory" - Able to return to its original state after impact. Non-sparking in the event of tool droppage.

Can permanently deform under impact. Metal-to-metal contact can create sparks.

### **FABRICATION**

Can be field fabricated with basic carpenter's tools using carbide or diamond blades.

Often requires welding and cutting torches. Heavier material often requires special handling.

### **ENVIRONMENTAL IMPACT**

Manufacturing process produces fewer air, water and greenhouse gas emissions and requires less energy to produce.

Requires more energy to manufacture and produces more greenhouse effects than DURAGRID® Phenolic Grating.

### **COST**

Lower installation and maintenance costs often equals lower life cycle costs.

Lower initial cost vs. DURAGRID® Phenolic Grating, but higher life cycle costs due to more frequent maintenance and replacement.

### **MFG. QUALITY & CONSISTENCY**

Top quality and consistency in manufacturing (in an industry where these qualities vary widely). Strongwell is the industry leader.

Relatively little variation or differentiation between manufacturers.



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