



Confirmation of Product Type Approval

Company Name: STRONGWELL

Address: CHATFIELD DIVISION 1610 HIGHWAY 52 SOUTH MN 559239799 United States

Product: FRP Grating

Model(s): Duragrid Phenolic 45 mm and 38 mm Fiber Reinforced Polymer (FRP) Grating

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	23-2345253-PDA	17-FEB-2023	16-FEB-2028
Manufacturing Assessment (MA)	18-SB3555942	17-SEP-2018	01-OCT-2023
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Marine and Offshore application in walkways, catwalks, ladders, platforms or access areas in Open Decks, Semi-enclosed areas, Ballast Water Tanks, Cofferdams, Void Spaces, Double Bottoms, Pipe tunnels as authorized in the ABS Marine Vessel Rules 3-4-A1 or ABS Mobile Offshore Unit Rules 5-3-A1.

Description

DURAGRID Phenolic is high strength pultruded fiberglass bar type gratings. DURAGRID Phenolic bearing bars may be 38mm or 45mm I-shapes that complies with ASTM F3059 - Standard Specification for Fiber-Reinforced Polymer (FRP) Gratings Used in Marine Construction and Shipbuilding .

Ratings

Flame Spread and Smoke Generation per ASTM F3059 (Section 16)

Structural Fire Integrity per ASTM F3059 (Section 17) Level 2 (L2), Level 3 (L3) and Level 0 (L0):

Level 2 (L2) FRP gratings meeting the L2 performance criteria are intended for use in areas in which personnel may need to assemble after the grating has been exposed to a fire and are tested to ensure that they will be able to sustain a post-fire structural loading. Areas in which L2 gratings are specified include temporary safe refuge or lifeboat embarkation stations. Level 2 gratings may also be used in any areas requiring Level 3 gratings.

Level 3 (L3) FRP gratings meeting the L3 performance criteria are intended for use in areas used as egress routes or that may require access for firefighting, emergency operations, or rescue during or shortly after exposure to a very limited fire not likely involving flammable liquids.

Level 0 (L0) FRP gratings tested to Test Method E84 with a flame spread index no more than 20 and a

smoke developed index no more than 450. L0 FRP gratings have no level of fire integrity. L0 gratings are used for personnel walkways, catwalks, ladders, platforms, or access areas in cargo holds and tanks.

Please refer to ABS Marine Vessels Rules 3-4-A1 or ABS Mobile Offshore Units Rules 5-3-A1 (ABS Facilities Rules A3) for locations and applications acceptable for FRP gratings.

Service Restrictions

1. Unit Certification is not required for this product. If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. ABS Marine Vessels Rules 3-4-A1 or ABS Mobile Offshore Units Rules 5-3-A1 (ABS Facilities Rules A3) identifies the locations and the applications acceptable for FRP gratings.
3. Not applicable to accommodations, service spaces, control stations, and machinery spaces.
4. DURAGRID Phenolic 38 mm or 45mm pultruded grating has a maximum bearing bar spacing of 38 mm on center and maximum unsupported span of 1120 mm.
5. Not intended to use in Drill floor and Hydrocarbon processing/production areas where hydrocarbon fires are expected. Refer to Comment #6.

Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Approval not performed on behalf of any flag Administration.
3. The scope of Type Approval is to comply with MSC.1/Circ.1221 dated 11 December 2006.
4. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as per tested/approved prototype.
5. DURAGRID Phenolic grating was tested to meet ASTM F3059 Section 8 through Section 17.
6. DURAGRID Phenolic grating is comply with the L2 fire resistance requirements of intact (pre-fire) testing (flame spread, smoke generation) as addressed in ASTM F3059, along with post fire testing with ASTM E119, cellulosic fire test, to center load test and uniform load test. If DURAGRID Phenolic is damaged by any hydrocarbon fires, the damaged grating shall be strictly restricted to access by personnel until replaced with new gratings.
7. Individual review to the intended use on specific vessel, MODU or facility is required.
8. This certificate may not be used for EU and US flagged vessels/Facilities (MED and/or USCG have their own specific/requirements).
9. Unless specially directed by Administration, this approval is not to be construed as a substitute for Flag Administration's approval for the purpose of SOLAS and/or IMO MODU Code, as amended/updated.

Notes, Drawings and Documentation

- 1) For Duragrid Phenolic 38mm: COMTEC Job# 121115-02, dated January 2016; Smith-Emery Lab P#31371-1, dated January 2016; COMTEC Job# 061812-01, dated July 2012; Intertek, Report# 102429778SAT-003A, Rev1, February 2016; Intertek, Report# 102429778SAT-003B, Rev1, February 2016; Intertek, Report# 102299027SAT-003A, November 2015.
- 2) For Duragrid Phenolic 45mm: COMTEC Job# 081715-01, dated October 2015; Smith-Emery Lab P#31371-1, dated July 2001; COMTEC Job# 061812-01, dated July 2012; Intertek, Report# 101547766SAT-001, May 2014; Intertek, Report# 102337218SAT-001A, November 2015; SwRI P# 01.14431.01.309, February 2009.

Strongwell Declaration of Conformity for Duragrid Phenolic Gratings dated 7 December 2022.

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 16/Feb/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

Rules for Conditions of Classification, Part 1 - 2023 Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4; 3-4-A1;

Rules for Conditions of Classification, Part 1 - 2023 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2023 Mobile Offshore Units 5-3-A1;

2023 Facilities on Offshore Installations Appendix 3;

International Standards

NA

EU-MED Standards

NA

National Standards

ASTM F3059 - Standard Specification for Fiber-Reinforced Polymer (FRP) Gratings Used in Marine Construction and Shipbuilding, 2018

Government Standards

USCG Coast Guard CG-ENG Policy Letter 01-18: Equivalency Determination-FRP Gratings Conforming to ASTM F3059

Other Standards

NA



A handwritten signature in black ink, appearing to read 'Joseph W. ...', is written over the printed text.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 10-Mar-2023 8:56

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS

Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.