



Confirmation of Product Type Approval

Company Name: STRONGWELL

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

Product: FRP Grating

Model(s): H60-0000 through H60-6000

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	23-2461408-PDA	13-DEC-2023	12-DEC-2028
Manufacturing Assessment (MA)	23-6066976	07-NOV-2023	06-NOV-2028
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Marine & Offshore Application - Walkways, Platforms, Catwalks, Ladders, or access areas and other applications as authorized in the ABS Marine Vessels Rules 3-4-A1 or ABS Mobile Offshore Units Rules 5-3-A1.

Description

DURAGRID Phenolic H60 Series Fire Integrity FRP Grating. DURAGRID bearing bars may be 38mm or 45mm I-shape with thickness of 0.160 inch.

DURAGRID Phenolic H60 Series Fire Integrity FRP Grating 38mm & 45mm: Double I-Bar configuration with a maximum spacing of 1.50 inch from center to center of adjacent I-Bars.

Ratings

Structural Fire Integrity per ASTM F3059 Level 2 (L2), Level 3 (L3) and Level 0 (L0). Flame Spread and Smoke Generation per ASTM F3059 Section 16.

Duragrid phenolic H60 Series double I-Bar configuration grating performs comparatively to steel grating under hydrocarbon fire temperatures.

Service Restrictions

1) Unit Certification is not required for this product. If the manufacturer or purchaser 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) Installation is limited to main egress routes, and any areas that may require access for firefighting,

rescue or emergency operations during exposure to or shortly after exposure to a transitory hydrocarbon fire.

- 3) Installation in accommodation, service, control station and machinery spaces is prohibited.
- 4) Not to be used in Cargo Tanks and Fuel Oil Tanks, etc. which are normally entered when underway.
- 5) This product should not be used in areas where FRP grating of L1 integrity would be required.
- 6) Prior to installation, plans detailing the intended application are to be submitted to ABS for review, and concurrence from the flag Administration is required.
- 7) Maximum allowable open area spacing of 60%.
- 8) Maximum bearing double bar spacing of 1.5 inch on center and maximum unsupported span of 44 inch (1120 mm).
- 9) ABS Marine Vessels Rules 3-4-A1 or ABS Mobile Offshore Unit Rules 5-3-A1 (also the ABS Facilities on Offshore Installations Rules A3) identifies the locations and the applications acceptable for FRP gratings.

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) Grating was tested to meet ASTM F3059 Section 8 through Section 17.
- 6) Grating to 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.
- 7) If the grating is damaged with any hydrocarbon fires, damaged grating shall be strictly restricted to access unless replaced with new gratings.
- 8) If use in open Drill floor and open Hydrocarbon processing/production areas where hydrocarbon fires are expected, detailed hydrocarbon fire risk assessment are to be conducted with flag Administration concurrence.
- 9) Unless specially directed by the Administration, this approval is not to be construed as a substitute for Flag Administration's approval for the purpose of SOLAS 1974 (as amended) and IMO MODU Code, as amended.
- 10) This certificate may not be used for EU and US flagged vessels (MED and/or USCG have their own specific/requirements), unless specially considered.
- 11) Individual review to the intended use on specific vessel, MODU, or facility is required.

Notes, Drawings and Documentation

Supporting Data:

Drawing No. 100200 Rev. C, I-Bar, 1.5" Phenolic;

Drawing No. 100545 Rev. A, I-Bar, 45mm Phenolic;

Composite Material Technology Center (COMTEC) - Winona State University, Test Report (Job No.

050113-01) dated 12 Jun. 2013, 12 pages;

SwRI Test Report (Project No. 01.17787.01.616) dated 30 May 2013, 14 pages;

SwRI Test Report (Project No. 01.14431.01.309) dated 18 Feb. 2013, 31 pages;

Strongwell Reference memorandum for 1-1/2" Double I-Bar (I6000) confirmation;

Strongwell Duragrid Phenolic 38mm ASTM F3059 Test Package, Strongwell Duragrid Phenolic 38mm Submittal Package, dated 8 February 2016;

Strongwell Duragrid Phenolic 45mm ASTM F3059 Test Package, Strongwell Duragrid Phenolic 45mm Submittal Package, dated 13 November 2015;

PDA Application for Revalidation of Product Design Assessment Certificate 18-HS1791652-PDA

Strongwell ABS Declaration of Conformity Dated 13 September 2023.

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 12/Dec/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 Rules 5-3-1/1.13; 5-3-A1

2023 Facilities on Offshore Installations Rules 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, 2015;

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read "Joseph W. White".

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 14-Dec-2023 4:25

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.