



Confirmation of Product Type Approval

Company Name: STRONGWELL

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

Product: FRP Guardrails

Model(s): Strongwell Safrail Fiberglass Handrails

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	18-HS1773291-PDA	19-SEP-2018	16-SEP-2023
Manufacturing Assessment (MA)	18-SB3555942	17-SEP-2018	01-OCT-2023
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3

Intended Service

Marine & Offshore Applications - Fiberglass Handrails.

Description

Polyester, Vinylester or Phenolic handrail system. Cross-section may be Square (2x2-inch hollow section, 0.16-inch wall thickness) or Round (1.9-inch diam., 0.2-inch wall thickness).

Ratings

Flame spread rating not to exceed 20 per ASTM Standard E-84

Strength testing in accordance with ASTM E-985 and OSHA 1910.23 Section (e)(3)(iv)

Weathering and UV degradation testing in accordance with ASTM G-154

Self-extinguishing in accordance with ASTM D-635

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) The scope of the Type Approval is to comply with MSC.1/Circ. 1221 dated 11 December 2006.

3) Maximum horizontal span length between vertical supports in accordance with ASTM E-985 as invoked by ABS Rules:

1.22 meters (48 inches) for round & square polyester and round phenolic

1.37 meters (54 inches) for square phenolic

Maximum horizontal span length between vertical supports in accordance with OSHA 1910.23 Section (e)(3)(iv):

1.52 meters (60 inches) for round polyester and phenolic

1.83 meters (72 inches) for square polyester and phenolic

4) Installation limited to personnel walkways, catwalks, ladders, platforms or access areas on open decks and semi-enclosed areas and in tanks, cofferdams, void spaces, pipe tunnels/ducts, holds and storage spaces. Not to be used in areas used for escape, firefighting, emergency operation or rescue.

5) Installation in accommodations, service spaces and control stations, and in other areas that are normally manned, is prohibited.

6) Not to be used in areas where steel handrails are required by the International Convention on Load Lines.

7) Prior to installation, plans detailing the intended arrangements are to be submitted to ABS for review. Flag Administration acceptance of the arrangements is required.

8) FRP handrails must be replaced after a fire incident.

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) 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 tested/approved prototype.

4) Product should be installed/used in accordance with manufacturer's instructions and limitations and ABS approved drawings.

Notes, Drawings and Documentation

Element Materials Technology Report Number: ESP011671P.1.Rev1, Load Capacity Testing of Handrail Systems (ASTM E985), 26 April 2013

Element Materials Technology Report Number: ESP011671P.Rev1, Load Capacity Testing of Handrail Systems (OSHA), 26 April 2013

Intertek Report Number: 100093535SAT-001 Rev. 1, Report of Testing "Fire Retardant Vinylester Pultrusion" for compliance with the applicable requirements of the following criteria: ASTM E84-10 Test

For Surface Burning Characteristics of Building Materials (UL 723, UBC 8-1, NFPA 255), Original Issue Date: April 26, 2010, Revised Date: May 12, 2010

Intertek Report Number: 3152762SAT-001, ASTM E84-05 Standard Duradek or Duragrid Fiberglass Grating, Material ID: Fire Retardant Polyester Grating Test For Surface Burning Characteristics of Building Materials, 28 May 2008

Stork Twin City Testing Corporation Job Number: 30160 09-01793R2, Testing of FRPE Laminate, 6 April 2009

SwRI Report 01.14430.01.084a, Investigation of the Surface Burning Characteristics of a Nominal 1.5 inch thick Fiber Reinforced Plastic (FRP) Grating Panel Material ID: Duragrid Phenolic Grating I6000, 1.5

inch, A8667OC, 17 February 2009

VTEC Laboratories, Inc. Test VTEC 100-3267-1, ASTM D635 Testing on Duragrid Phenolic Grating, 22 July 2009

Term of Validity

This Product Design Assessment (PDA) Certificate 18-HS1773291-PDA, dated 17/Sep/2018 remains valid until 16/Sep/2023 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules

2018 Rules for Condition of Classification, Part 1, 1-1-4/7.7, 1-1-A3, and 1-1-A4, which covers the following:

2018 Steel Vessels Rules 3-4-1

2018 Rules for Condition of Classification - Offshore Units and Structures, Part 1, 1-1-4/9.7, 1-1-A2, and 1-1-A3, which covers the following:

2018 Mobile Offshore Drilling Units Rules, 5-1-1/3.3 & 3.5 and 5-3/Appendix 2 Fiber Reinforced Plastic (FRP) Guardrails

International Standards

NA

EU-MED Standards

NA

National Standards

ASTM E-84-05, -08a & -10

ASTM E-985-00(2006)

ASTM G-154-06

ASTM D-635-06

Government Standards

OSHA 1910.23(2013)

Other Standards

NA





Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 15-Jan-2020 7:27

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.