

CERTIFICATE NUMBER EFFECTIVE DATE EXPIRY DATE ABS TECHNICAL OFFICE 19-HS1930291-PDA-DUP 16-Dec-2019 15-Dec-2024 Houston SED Structures -Commercial

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

GURIT (TIANJIN) COMPOSITE MATERIAL CO., LTD.

located at

NO. 1 HENGTONG ROAD, YSP, WUQING DISTRICT, TIANJIN, China, 301726

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product Structural Core (Foam)

Model Corecell M-Foam: M60, M80, M100, M130, M200

This Product Design Assessment (PDA) Certificate remains valid until 15/Dec/2024 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.

American Bureau Of Shipping

Daviel Hyun SON Hyun Young Son,Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

GURIT (TIANJIN) COMPOSITE MATERIAL CO.

NO. 1 HENGTONG ROAD, YSP, WUQING DISTRICT

TIANJIN

China 301726

Telephone: +86 (22) 82106850

Fax: +86 (22) 82106859

Email: roben.zhao@gurit.com

Web: www.gurit.com

Tier: 3 - Type Approved, unit certification not required

Product: Structural Core (Foam)

Model: Corecell M-Foam: M60, M80, M100, M130, M200

Intended Service: A Sandwich Core Material for Reinforced Plastic Vessels and Structures.

Description:

CoreCell is a linear polymer structural foam from the styrene-acrylonitrile (SAN) polymer. CoreCell is a closed cell, rigid foam suitable for a wide range of demanding structural applications and different composite manufacturing processes. CoreCell is also fully compatible with polyester, vinylester, and epoxy resins, as well as all commonly used epoxy prepreg systems.

Rating:

Corecell is produced in the following density ranges: M60: 61-69 kg/m3 (3.8-4.3 lb/ft3) M80: 81-89 kg/m3 (5.1-5.6 lb/ft3) M100: 100-115 kg/m3 (6.2-7.2 lb/ft3) M130: 130-150 kg/m3 (8.1-9.4 lb/ft3) M200: 185-215 kg/m3 (11.5-13.4 lb/ft3)

Service Restriction:

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.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Corecell SDS (English North America) June 2012, MSDS, Revision: -, Pages: 1 TDS Gurit Corecell M-Foam, Corecell M-Foam Brochure, Revision: -, Pages: 1 Drawing No. HS1318706, Declaration of Conformity Letter, Revision: -, Pages: 1

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 15/Dec/2024 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.

STANDARDS

ABS Rules:

2019 Rules for Materials and Welding – Aluminum and Fiber Reinforced Plastics (FRP) 2-6-1/5.1 2019 Rules for Conditions of Classification 1-1-4/7.7, 1-1-A3, 1-1-A4

GURIT (TIANJIN) COMPOSITE MATERIAL CO.

NO. 1 HENGTONG ROAD, YSP, WUQING DISTRICT TIANJIN China 301726 Telephone: +86 (22) 82106850 Fax: +86 (22) 82106859 Email: roben.zhao@gurit.com Web: www.gurit.com

Tier: 3 - Type Approved, unit certification not required

National:

2016 ASTM D-1621-16 2019 ASTM C-273/C273M-19 2017 ASTM D1623-17

International: NA

Government: NA

EUMED: NA

OTHERS:

NA