



Indian Register of Shipping

CERTIFICATE NO: 2021TAC037

TYPE APPROVAL CERTIFICATE

*This is to certify that the product is in accordance with the applicable rules/standards/codes as described below.
The product is considered to be suitable for use in marine applications and is retained in the list of approved products.*

| | |
|----------------------------------|---|
| MANUFACTURER | Gurit Americas Inc |
| MANUFACTURING WORKS | No.1 Hengtong Road, YSP, TEDA, Tianjin, P.R. China |
| REGISTERED OFFICE | 555, Blv Poirier, Magog, Quebec J1X7L1, Canada. |
| PRODUCT NAME | STRUCTURAL CORE MATERIALS |
| MODEL NO. / TRADE NAME | Corecell TM Structural M Foam |
| PRODUCT DESCRIPTION | Corecell TM Structural M-Foam; M80, M100, M130 and M200; SAN (styrene-acrylonitrile) with closed cells. Used for sandwich construction. |
| APPLICABLE RULES/STANDARDS/CODES | IRS Rules and Regulations for the Construction and Classification of High Speed Crafts and Light Crafts |
| CONDITIONS OF APPROVAL | SEE ANNEXURE I & II |
| VALIDITY | The Certificate is valid until 18/06/2026 |

ISSUE DATE: 14/05/2021

PLACE: MUMBAI

Premjit Panigrahi
Sr. Principal Surveyor

Previous Certificate No : 2016TAC043 dated : 28/06/2016

This Certificate is issued upon the following terms and conditions as laid down in the Society's Regulations:-

Whilst Indian Register of Shipping, a Classification Society, along with its subsidiaries and associates (hereinafter referred to as the Society) and its Board/Committees use their best endeavors to ensure that the functions of the Society are properly carried out, in providing services, information or advice neither the Society nor any of its servants or agents warrants the accuracy of any information or advice supplied. Except as set out herein neither the Society nor any of its servants or agents (on behalf of each of whom the Society has agreed this clause) shall be liable for any loss damage or expense whatever sustained by any person due to any act or omission or error of whatsoever nature and however caused of the Society, its servants or agents or due to any inaccuracy of whatsoever nature and howsoever caused in any information or advice given in any way whatsoever by or on behalf of the Society, even if held to amount to a breach of warranty. Nevertheless, if any person uses services of the Society, or relies on any information or advice given by or on behalf of the Society and suffers loss damage or expenses thereby which is proved to have been due to any negligent act omission or error of the Society, its servants or agents or any negligent inaccuracy in information or advice given by or on behalf of the Society then the Society will pay compensation to such person for his proved loss up to but not exceeding the amount of the fee charged by the Society for that particular service, information or advice. Any notice of claim for loss, damage or expense, as referred to above, shall be made in writing to the Society's Head Office within six months of the date when the service, information or advice was first provided, failing which all the rights to any such claim shall be forfeited and the Society shall be relieved and discharged from all liabilities.

ANNEXURE I
(TO CERTIFICATE NO. 2021TAC037 DATED 14th May 2021)

CONDITIONS OF APPROVAL

This approval is subject to following:

1. The following manufacturer's specified values are confirmed by type testing.

| Sr. No. | Property | Test Method | M60 | M80 | M100 | M130 | M200 |
|---------|--|-------------|----------------|----------------|----------------|----------------|----------------|
| 1. | Density (D) (kg/m ³) | ASTM D1622 | 61-69 | 81-89 | 100 -115 | 130-150 | 185-215 |
| 2. | Compressive strength (D) (N/mm ²) | ISO 844 | 0.55 (0.33) | 1.02 (0.80) | 1.55 (1.24) | 2.31 (1.95) | 4.40 (3.66) |
| 3. | Compressive modulus (D) (N/mm ²) | ISO 844 | 45 (35) | 71 (57) | 107 (83) | 170 (130) | 319 (239) |
| 4. | Shear Strength (N/mm ²) | ASTM C273 | 0.68 (0.55) | 1.09 (0.96) | 1.45 (1.26) | 1.98 (1.75) | 2.95 (2.64) |
| 5. | Shear modulus (N/mm ²) | ASTM C273 | 20 (17) | 29 (25) | 41 (34) | 59 (49) | 98 (81) |

All values are average values and verified by testing. The values within brackets are minimum values.

Notes:

MNV: Manufacturer's Nominal Value (as given in the product specification)

D : To be tested for each delivery/batch.

2. The Manufacturer is to maintain effective quality system complying with the current version of ISO 9000 series at all times.
3. Each delivery of the material is to be suitably marked with the following data;
 - (a) Approval Certificate Number and Date
 - (b) Designation of Product
 - (c) Batch Number
4. The supplier is to submit a copy of test certificate indicating physical and mechanical Properties of the product of each batch prior to delivery against an order.
5. Structural Core Material will require re-approval under following circumstances:
 - i. Any Changes to the approved design parameters or construction.
 - ii. Any changes in the location/address of the manufacturer as stipulated in the certificate without informing IRS in writing.
 - iii. Any alteration being made to the manufacturing facilities and product procedure.
 - iv. Any changes in design or composition of the material.



Premjit Panigrahi
Sr. Principal Surveyor

ANNEXURE II
(TO CERTIFICATE NO. 2021TAC037 DATED 14th May 2021)

The Validity of this Certificate is subject to satisfactory completion of Annual audits in accordance with Society's Requirements.

Annual Inspection Due

: May 2022
May 2023
May 2024
May 2025

Signature _____

Surveyor's Name _____

IRS Stamp

Outport _____

Date _____

Signature _____

Surveyor's Name _____

IRS Stamp

Outport _____

Date _____

Signature _____

Surveyor's Name _____

IRS Stamp

Outport _____

Date _____

Signature _____

Surveyor's Name _____

IRS Stamp

Outport _____

Date _____
