Marine & Offshore

Certificate number: 22592/C2 BV
File number: COMP3/1/1 to /5
Product code: 9064H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

Gurit Americas Inc.

Magog, Quebec - CANADA

for the type of product

MISCELLANEOUS CORE MATERIALS FOR F.R.P. SANDWICH

Structural foam core material for sandwich construction.

Requirements:
Bureau Veritas "Hull in Composite and Plywood, Material Approval, Design Principles, Construction and Surevy" NR546 as amended

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 05 May 2025

For Bureau Veritas Marine & Offshore,
At BV PORT EVERGLADES CENTRE, on 31 Oct 2024,
Flavio Rosas

This certificate was created electronically and is valid without signature

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Designation: **CORECELL™ M FOAM type M60, M80, M100, M130** and **M200.**
Applications: Structural Core material for sandwich constructions.
Material description: SAN foam (styrene-Acrylonitrile polymer) with Closed Cells.

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

Properties	Test	Method	M60	M80	M100	M130	M200	Unit	Values(3)
Density	ASTM	D 1622	65 61	85 81	107.5 100	140 130	200 185	kg/m3	msv msmv
Compressive strength	ASTM	D1621-04	0.69 0.60	1.16 1.02	1.72 1.48	2.58 2.25	4.40 3.66	MPa	msv msmv
Compressive modulus	ASTM	D1621-73 D1621-73	48 39	78 63	112 88	169 134	317 239	MPa	msv msmv
Shear strength	ASTM	C273	0.78 0.68	1.15 1.04	1.47 1.33	1.96 1.76	2.95 2.64	MPa	msv msmv
Shear modulus	ASTM	C273	23 20	34 28	44 38	60 54	98 81	MPa	msv msmv
Tensile strength	ASTM	D1623	1.21 1.05	1.74 1.56	2.23 1.97	3.00 2.67	4.29 3.44	MPa	msv msmv
Tensile modulus	ASTM	D1623	67 50	98 80	134 102	186 145	334 155	MPa	msv msmv
Styrene resistance: - Volumetric variation (1) - Mass variation(1)	ISO	175	0 0.1	0 0	0.1 -0.1	0.1 0	0.1 -0.1	% %	-
Water absorption(2) (in % of volume increase)	ISO	2896	1.61	1.76	1.18	1.30	0.95	%	-

Note 1: After 2 hours of immersion, and then 2hours of drying @50°C.
Note 2: After 7 days of complete immersion.
Note 3: msv: manufacturer specified value; msmv: manufacturer minimum specified value.

2. DOCUMENTS AND DRAWINGS:

- Material Safety Data sheet "Gurit Corecell M Foam Safety datasheet " revision date 30/05/2023
- Technical Datasheet Gurit Corecell™ M Structural Foam Core M-11-0623
- Technical report Gurit Corecell M-Foam dated 04/10/2024
- Letter from Gurit dated june 1st 2015 concerning reformulation

3. TEST REPORTS:

- Gurit Corecell M-Foam Bureau Veritas update 2023 dated 04/10/2024.

4. APPLICATION / LIMITATION:

- Use: structural core for hull sandwich construction or other parts of ships according to BUREAU VERITAS Rules.
- Compatibility with resins: polyester, vinylester, epoxy.

5. PRODUCTION SURVEY REQUIREMENTS :

The *Corecell type M Foam* are to be supplied by GURIT in compliance with the type described in this certificate.
This type of product is within the category HBV of Bureau Veritas Rule Note NR320.
GURIT has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
For information, GURIT has declared to Bureau Veritas the following production site:

GURIT Americas Inc.
Corecell Plant
555 Boul. Poirier
Magog, Quebec J1X 7L1
CANADA

6. MARKING OF PRODUCT:

Product shall be marked with t*ype designation, density and manufacturer's name*: **GURIT AMERICAS Inc.**

7. OTHERS:

This certificate supersedes the Type Approval Certificate N°22592/C1 BV issued by the Society.

***** END OF CERTIFICATE *****