

TYPE APPROVAL

Certificate No.:
TA-DNV-CP-0084-09940-0

Issued:
2023-09-18

Valid until:
2028-04-30

Issued for:

Sandwich core material

with type designation(s)

Corecell™ M - Series

As specified in Annex 1

Issued to:

Gurit Americas Inc.

555 Boul. Poirier, Magog, QC J1X 7L1, Canada

According to:

DNV-SE-0436:2022-09 Shop approval in renewable energy

and

DNV-CP-0084:2021-09 Type approval – Sandwich core materials

Applying:

DNV-SE-0441:2021-10 Type and component certification of wind turbines

Based on the documents listed in Annex 1.

This Type Approval supersedes the Type Approval TAK000017N.

Any significant changes in the design and/or quality of the material will render this Type Approval invalid.

Hellerup, 2023-09-18

For DNV Renewables Certification

Bente Vestergaard
Service Line Leader



By DAKKS according DIN EN IEC/ISO 17065
accredited Certification Body for products. The
accreditation is valid for the fields of certification
listed in the certificate.

Hamburg, 2023-09-18

For DNV Renewables Certification

Nikunj Kumar Pokiya
Project Manager

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Product description and application

A cross-linked, closed-cell SAN (styrene-acrylonitrile)-foam core material for sandwich construction.

Approved variants

- Gurit® Corecell™ M-60 - Gurit® Corecell™ M-80 - Gurit® Corecell™ M-100
- Gurit® Corecell™ M-130 - Gurit® Corecell™ M-200

Type Approval documentation

Technical data sheet(s) 11-0623, Gurit® Corecell™ M, Gurit
Safety data sheet(s) Rev.4.3, Corecell M&T Foam, Gurit, dated 2021-07-06
Test report(s) 2010-3001, Rev.01, Testing of Sandwich Panels, DNV, dated 2010-01-07.
11428, Test report, Gurit Americas, dated 2014-02-27
2023-1M, rev.7.0, Technical report, Gurit Americas, dated 2023-07-17
2022-3167, Rev.0, Testing of Corecell M60 and M200, DNV, 2022-09-08
Shop Approval SA-DNV-SE-0436-10037-0, DNV, dated 2023-07-21
Quality control documentation 58949-1-03, ISO 9001:2015 Certificate, Bureau de normalisation du Québec (BNQ), dated 2023-03-26.
113936-2012-AQ-RGCRvA, ISO 9001:2015 Certificate, DNV, dated 2023-04-07.
72243-2010-AQ-DEN-DANAK, ISO 9001:2015 Certificate, DNV, dated 2023-02-15.
Several certificates of analysis

Material properties

The values without brackets are manufacturer's specified values and the values in brackets are manufacturer's specified minimum values. All values are confirmed by type testing.

Variant	Nominal Density (1)	Density Range (1)	Compr. Strength (2)	Compr. Modulus (2)	Shear Strength (3)	Shear Modulus (3)	Shear Elongation (4)	Tensile Strength (5)	Tensile Modulus (5)	HRT (6)
M-60	65	61 - 69	0.69 (0.60)	48 (39)	0.78 (0.68)	23 (20)	57	1.21 (1.05)	67 (50)	--
M-80	85	81 – 89	1.16 (1.02)	78 (63)	1.15 (1.04)	34 (28)	57	1.74 (1.56)	98 (80)	--
M-100	107.5	100 – 115	1.72 (1.48)	112 (88)	1.47 (1.33)	44 (38)	50	2.23 (1.97)	134 (102)	--
M-130	140	130 – 150	2.58 (2.25)	169 (134)	1.96 (1.76)	60 (54)	40	3.00 (2.67)	186 (145)	45
M-200	200	185 – 215	4.40 (3.66)	317 (239)	2.95 (2.64)	98 (81)	30	4.29 (3.44)	334 (155)	--

(1) Density according to ISO 845 in kg/m³

(2) Compressive strength according to ASTM D1621-16 and compressive modulus according to ISO 844 procedure B in MPa.

(3) Shear properties according to ASTM C273 in MPa.

(4) Average shear elongation at break according to ASTM C273 in %.

(5) Tensile properties according to ASTM D 1623 in MPa.

(6) Heat resistance temperature (HRT) in °C where the shear strength is > 80% of the shear at RT.

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Slamming Properties

All variants of the core material are approved for use in areas exposed to slamming and slamming fatigue.

Average shear strength in slamming grade testing according to ASTM C393:

- Corecell M-60: 1.03 MPa
- Corecell M-130: 2.46 Mpa
- Corecell M-200: 5.44 Mpa

Approved production sites

Gurit Americas Inc
555, Boulevard Poirier,
Magog, Quebec J1X7L1,
Canada

Gurit Tianjin Composite Material Co., Ltd.
No.1 Hengtong Road YSP,
TEDA, Tianjin,
P.R. China, 301726

Periodical assessment

2.5 years after this Type Approval is issued, the client shall inform DNV about any modifications in production. An intermediate inspection of the production workshops might be needed based on the implemented changes.

A workshop holding a valid Shop Approval for manufacturing of composite materials for the material in question is exempted from a periodical assessment.