

# TYPE APPROVAL

Certificate No.:  
TA-DNVGL-CP-0084-07089-1

Issued:  
2021-05-21

Valid until:  
2025-12-17

Issued for:

**PVC**

with type designation

**PVC - HT - Series**

Issued to:

**Gurit Composite Materials AG**

Zürich, ZH, Switzerland

According to:

**DNVGL-SE-0436:2018-04 Shop approval in renewable energy**

and

**DNVGL-CP-0084:2016-03 Type approval – Sandwich core materials**

Applying:

**DNVGL-SE-0441:2016-06 Type and component certification of wind turbines**

Based on the documents listed in Annex 1:

This Type Approval supersedes the Type Approval TA-DNVGL-CP-0084-07089-0 and consists of this page and Annex 1 which is integral part of the approval.

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

Hellerup, 2021-05-21

Hamburg, 2021-05-21

**For DNV GL Renewables Certification**  
**Bente Vestergaard**  
Service Line Leader

**For DNV GL Renewables Certification**  
**Bernhard Krüger**  
Project Manager

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## Product description and application

A cross-linked, closed-cell PVC (Polyvinyl Chloride)-foam core material for sandwich construction

## Approved variants

- Gurit PVC 60 HT
- Gurit PVC 80 HT
- Gurit PVC 100 HT
- Gurit PVC 130 HT

## Type Approval documentation

Technical data sheet(s): General Datasheet Gurit PVC HT Structural foam core

Test report: Technical Report Gurit PVC and PVC HT foams DNVGL 2020 certification renewal with no. 12124 version 1 issued on 2020-12-02  
 Technical Report Inclusion of new densities 100 and 130 on PVCHT DNVGL Type Approval with n. 12236, version 1, issued 2021-01-21

Inspection report: Type Approval Assessment Report, issued on 2020-09-25

Quality control documentation: ISO 9001:2015, 58949-1-01, 2020-11-06  
 Several CoAs

## Material Properties

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)
PVC 60 HT	60	54 - 69	1.01 (0.84)	65 (50)	0.86 (0.73)	21 (17)	29	1.98 (1.15)	97 (22)	--
PVC 80 HT	80	72 - 92	1.63 (1.44)	96 (74)	1.26 (1.09)	29 (24)	32	2.84 (1.91)	138 (58)	47
PVC 100 HT	100	90 - 115	2.40 (1.70)	160 (100)	1.73 (1.30)	46 (30)	29	3.23 (2.30)	133 (86)	--
PVC 130 HT	130	120 - 150	2.94 (2.50)	207 (150)	2.32 (2.00)	59 (45)	24	3.85 (3.20)	166 (130)	47

(1) Density according to ISO 845 in kg/m<sup>3</sup>

(2) Compressive properties according to ISO 844:2014, procedure B in MPa.

(3) Shear properties according to ISO 1922 in MPa.

(4) Shear elongation at break according to ISO 1922 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.

Values without brackets: msv = manufacturers specified value

Values in brackets: msmv = manufacturers specified minimum value

## Limitations

The foam complies with the applicable requirements of DNV GL and is compatible to the laminating resin and/or adhesive.

## Approved Production Sites

Maricell S.r.l.

Via Villanova 15

Longarone I-32013

Italy

Last workshop inspection was performed on 2020-09-25.

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## **Periodical assessment**

2.5 years after the last workshop inspection, the client shall inform DNV GL about any modifications in production. An intermediate inspection might be needed based on the implemented changes.

For renewal, an inspection 5 years after the last workshop inspection is due.

## **Remarks**

ASTM D 1621-73 procedure B and ISO 844:2014 procedure B work on the same technical principle and provide comparable test results.

ASTM C 273 and ISO 1922 work on the same technical principle and provide comparable test results.