

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Sandwich Core Materials

with type designation(s)
LYcell - Series

Issued to

MARICELL S.R.L.
LONGARONE, BL, Italy

is found to comply with

DNV GL class programme DNVGL-CP-0084 – Type approval – Sandwich core materials

Application :

Manufacturing of sandwich-structured composite.

Issued at **Hamburg** on **2018-05-07**

This Certificate is valid until **2023-05-06**.

DNV GL local station: **Venice**

for **DNV GL**

Approval Engineer: **Guido Michalek**

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Thorsten Lohmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

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

Approved variants

- LYcell L060 - LYcell L080

Material Properties

Variant	Nominal Density (1)	Density Range (1)	Compr. Strength (2)	Compr. Modulus (2)	Shear Strength (3)	Shear Modulus (3)	Elongation at Peak (4)
L060	60	50 - 69	0.77 (0.60)	55 (40)	0.65 (0.60)	19 (17)	18
L080	80	68 - 92	1.30 (1.10)	90 (70)	1.13 (1.07)	30 (26)	28

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

(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 peak according to ISO 1922 in %.

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

Limitation

The foam complies with the applicable requirements of DNV GL and is compatible to the laminating resin and/or adhesive. Any significant changes in design and / or quality of the material will render the approval invalid.

Type Approval documentation

- Technical Data Sheet
- Test Report No.87181/09, issued by SKZ Würzburg, dated 2010-02-22.
- Test Report No. 622-17, issued by Linset & Co. S.r.l. and based on tests witnessed by DNV GL, dated 2017-07-24.
- Workshop Inspection Report issued by DNV GL Venice, dated 2018-05-09.
- Quality documentation

Assessed production site

Maricell S.r.l.
Via Villanova 15
32013 Longarone
Italy

Periodical assessment

A production site with a valid Approval of Manufacturer (AoM) certificate for material in question is exempted from the obligation concerning retention and renewal assessments.

For manufacturer without a valid AoM a periodical assessment after 2.5 years and at renewal after 5 years is required.

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.

This certificate supersedes the Type Approval WP 1410015 HH.

END OF CERTIFICATE