

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Sandwich Core Materials**with type designation(s)  
**Divinycell PY 105**

Issued to

**DIAB S.p.A.**  
**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 **2018-01-17**This Certificate is valid until **2023-01-16**.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 closed-cell, thermoplastic Polyethylene terephthalate (PET)-foam for sandwich constructions.

## Approved variants

- Divinycell PY 105

## Material Properties

| Variant           | Nominal Density<br>(1) | Density Range<br>(1) | Compr. Strength<br>(2) | Compr. Modulus<br>(2) | Shear Strength<br>(3) | Shear Modulus<br>(3) | Tensile Strength<br>(4) | Tensile Modulus<br>(4) |
|-------------------|------------------------|----------------------|------------------------|-----------------------|-----------------------|----------------------|-------------------------|------------------------|
| Divinycell PY 105 | 105                    | 100 - 110            | 1.50<br>(1.40)         | 112<br>(85)           | 1.10<br>(0.80)        | 25<br>(23)           | 2.40<br>(1.90)          | 110<br>(90)            |

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

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. issued by DIAB S.P.A. and based on test results witnessed by our surveyor, dated 2017-11-16.
- Workshop Inspection Report issued by DNV GL Venice, dated 2017-10-24.
- Quality documentation

## Assessed production site

DIAB S.P.A.  
Via Alemagna 29  
Longarone, BL 32013  
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.

END OF CERTIFICATE