



# TYPE APPROVAL CERTIFICATE

Certificate no.:  
**TAK00002AJ**  
Revision No:  
**1**

## This is to certify:

that the **Sandwich Core Materials**

with type designation(s)  
**Divinycell® PR - series**

issued to

**DIAB International AB**  
**Laholm, Sweden**

is found to comply with

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

## Application:

**Core material for sandwich construction.**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

Issued at **Hamburg** on **2024-04-08**

This Certificate is valid until **2028-12-10**.

DNV local unit: **Denmark CMC**

Approval Engineer: **Joachim Rehbein**

for **DNV**



Digitally Signed By:  
**Martin Wenning**  
Location: **DNV Hamburg,**  
**Germany**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

**Divinycell® PR – series:** Thermoplastic polyethylene terephthalate (PET)-foam, with a sealed or unsealed surface.

### Approved variants

Divinycell® PR80, Divinycell® PR100, Divinycell® PR150, Divinycell® PR200, Divinycell® PR250

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

Variant	Nominal Density	Heat resistance temperature	Compr. Strength	Compr. Modulus	Shear Strength	Shear Modulus	Shear Strength	Shear Modulus
	ISO 845 [kg/m <sup>3</sup> ]	ASTM C393 [°C]	ISO 844 [MPa]	ISO 844 [MPa]	ISO 1922 parallel to welding lines [MPa]	ISO 1922 parallel to welding lines [MPa]	ISO 1922 perpendicular to welding lines [MPa]	ISO 1922 perpendicular to welding lines [MPa]
PR80	80 (75)	≤ 50	1.0 (0.8)	100 (80)	0.60 (0.50)	20 (15)	-	-
PR100	100 (95)	≤ 50	1.4 (1.2)	112 (85)	0.80 (0.70)	25 (22)	-	-
PR150	150 (145)	≤ 50	2.5 (2.2)	165 (130)	1.45 (1.25)	42 (37)	1.35 (1.25)	36 (32)
PR200	210 (195)	≤ 50	3.8 (3.2)	230 (190)	2.1 (1.8)	65 (50)	2.0 (1.7)	55 (47)
PR250	250 (235)	≤ 50	5.0 (4.3)	280 (220)	2.85 (2.25)	87 (65)	2.6 (2.2)	75 (60)

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

### Assessed production site

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

### Application/Limitation

The foam complies with the applicable requirements of DNV 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

Initial approval **TAK00002AJ**:

1. Application for type approval of 2023-04-06;
2. Assessment report TA 401 at production site issued 2023-11-08;
3. TDS: Diab Technical Specification Divinycell PR Rev.00 of 2023-04-06;
4. SDS: Diab Group MSDS - Divinycell® PR CD-0057 version 8.0 of 2023-05-12;
5. Test reports:
  - DNV approval tests of Divinycell® PR80 of 2023-08-03;
  - DNV approval tests of Divinycell® PR100 of 2023-08-03;
  - DNV approval tests of Divinycell® PR150 of 2023-08-03;
  - DNV approval tests of Divinycell® PR200 of 2023-08-03;
  - DNV approval tests of Divinycell® PR250 of 2023-08-03;
6. Specification CD-0262 version 4.0 Mechanical testing (test directions) of 2023-11-22.

### Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

### Marking of product

Product shall be marked with *manufacturer's name, place of production and type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV Type Approval Certificate.



Job ID: **262.1-039574-2**  
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### **Periodical assessment**

Periodical assessments will be required after 2 years and after 3.5 years (retention surveys) and for renewal after 5 years (renewal survey).

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.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

END OF CERTIFICATE