



Certificate No:
TAK000028W

TYPE APPROVAL CERTIFICATE

This is to certify:

That the **Sandwich Core Materials**

with type designation(s)
Divinycell® PL105

Issued to
DIAB International AB
Laholm, Sweden

is found to comply with
DNV rules for classification – Ships
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 **2023-06-28**

This Certificate is valid until **2028-06-27**.

DNV local unit: **Denmark CMC**

Approval Engineer: **Gabi Dau**

for **DNV**

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.

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® PL105

A thermoplastic Polyethylene terephthalate (PET)-foam, with a sealed or unsealed surface, for sandwich constructions.

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 ³]	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]
Divinycell PL105	105 (100)	≤ 50	1.50 (1.40)	112 (85)	0.95 (0.80)	25 (23)	0.85 (0.75)	23 (19)

The values within brackets are minimum values.

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.

Assessed production site

Diab AB
 Norra Sofieroledden 8
 312 32 Laholm
 Sweden

Skaps Industries India PVT. Ltd.
 Anajani Udyog PVT. Ltd., 141 (P) Mitap, Sector 12/S, Shantipath-4
 Mundra-370421, Gujarat
 India

Type Approval documentation

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.

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.dnvgl.com>

END OF CERTIFICATE