



Germanischer Lloyd SE • P.O. Box 11 16 06 • 20416 Hamburg/Germany

Baoding Visight Composite Materials Technology Co., Ltd.
North Henanzhuang, Gaokai District
Baoding City, Hebei Province
China

Head Office Hamburg
Brooktorkai 18
20457 Hamburg/Germany

Phone +49 40 36149-0
Fax +49 40 36149-200
headoffice@gl-group.com
www.gl-group.com

Your reference	Your Letter of	Our reference	Extension	Date
	2012-03-30	038289-12/GuMi	+49 40 3 61 49-4865	2012-04-19

GL Approval for Core Materials

Ladies and Gentlemen,

According to your letter of 2012-03-30 and to the results of the material testing we can approve the following product:

Closed Cell PVC Foam Vi-Cell PVC

Enclosed please find our certificate **WP 1210006 HH**.

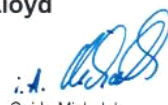
The fees for the approvals will be sent to you separately.

We thank you for the cooperation and remain

Yours faithfully,

Germanischer Lloyd


Stefan Röhr


Guido Michalek



Statement of Approval



Approval No. **WP 1210006 HH**

The material described below complies with the applicable requirements as given in the Rules and Regulations of Germanischer Lloyd. On this basis the material is

approved as **Sandwich Core Material**

for the construction of components provided that the recommendations for use as specified by the producer are observed.

Type	Vi-Cell PVC
Description	Closed Cell PVC Foam
Producer	Baoding Visight Composite Materials Technology Co., Ltd. North Henanzhuang, Gaokai District Baoding City, Hebei Province China
Normative Reference	Rules for Classification and Construction, II - Material and Welding Technology Part 2 Non-Metallic Materials

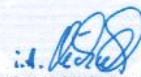
This document consists of this page and a one-page annex which is integral part of the approval.

This Statement of Approval is valid until 2016-04-18.

Hamburg, 2012-04-19

Germanischer Lloyd


Stefan Röhr


Guido Michalek

The latest edition of the General Terms and Conditions of Germanischer Lloyd is applicable (see Chap. I - Ship Technology, Part B - Classification and Surveys), Germanischer Lloyd SE, Registered Office Hamburg, HRB 115442.

Statement of Approval



ANNEX

Approval No.: WP 1210006 HH

Date: 2012-04-19

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Reference Documents Technical specifications deposited at Germanischer Lloyd Head Office

Assessed Documentation - Technical Data Sheet
- Test Report No. 2011-0255 issued by National Supervise Inspection Center of FRP Product Quality, dated on 2011-10-26
- Workshop Inspection Report issued by Germanischer Lloyd

Fields of Application Construction of FRP sandwich laminates of components, at the condition that the resins comply with the applicable requirements of the Germanischer Lloyd and are compatible to the core material.

Approved Variants - V60

Confirmed Values For the material the following average values (minimum values within brackets) have been verified by testing:

Variant	Nominal Density	Density (1)	Compr. Strength (2)	Compr. Modulus (2)	Shear Strength (3)	Shear Modulus (3)
V60	60	60.2 (59.7)	1.12 (1.08)	60 (58)	0.89 (0.88)	27.3 (26.5)

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

(2) Compressive behaviour according to ISO 844 in MPa.

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

Limitations Any significant changes in design and/or quality of the material may render the approval invalid.

Remarks None

End of Annex

Germanischer Lloyd