

GIFAmarine



Technical information sheet

08/2010

**Knauf Integral *GIFAmarine***  
Panels for offshore sections  
and furniture

## Large-sized panels for sections and furniture

Large-sized panel* 1260x2560mm**	Technical data		Weights		Package-unit		Material-number
	Thickness*** mm	Density kg/m <sup>3</sup>	Panel		One-way pallet		
			c. kg/pc.	c. kg/m <sup>2</sup>	pc. / c. m <sup>2</sup>	c. kg/pal.	
<b>GIFamarine 1100</b>	12	c. 1100	46.5	14.4	30 / 96.8	1430	101420
	16	c. 1100	61.9	19.2	25 / 80.6	1548	208225
	18	c. 1100	69.7	21.6	25 / 80.6	1778	101421
	23	c. 1100	89.0	27.6	20 / 64.5	1815	101422
	25	c. 1100	96.8	30.0	20 / 64.5	1971	102423
<b>GIFamarine 1500</b>	8	≥ 1500	41.3	12.8	50 / 161.3	2100	101424
	12	≥ 1500	61.9	19.2	30 / 96.8	1892	101426
	16	≥ 1500	82.6	25.6	25 / 80.6	2100	1014247
	18	≥ 1500	92.9	28.8	25 / 80.6	2358	101428
	25	≥ 1500	129.0	40.0	20 / 64.5	2615	208226
	28	≥ 1500	144.5	44.8	20 / 64.5	2915	208227

\* Special size 3100x1260mm is also possible, observe special delivery time

\*\* The size is the usable dimension out of the delivered raw cut panel



\*\*\* Other thicknesses on request, observe special delivery time

## Special panels for floors, stairs, stages and podiums

GIFamarine 1500 Floor	Thickness mm	Density kg/m <sup>3</sup>	Panel		One-way pallet		Material-number
			c. kg/pc.	c. kg/m <sup>2</sup>	pc./m <sup>2</sup>	c. kg/pal.	
1200x600mm	25	≥ 1500	27	37.5	35 / 25.2	945	101429
	28	≥ 1500	30.2	42	30 / 21.6	906	101432
	32	≥ 1500	34.6	48	25 / 18	8650	101433
600x600mm	25	≥ 1500	13.5	37.5	70 / 25.2	945	101430
	28	≥ 1500	15.1	42	60 / 21.6	906	101431
	32	≥ 1500	17.3	48	50 / 18	865	101434
	38	≥ 1500	20.6	57	40 / 14.4	824	101436

## Building physical material values

	GIFamarine 1500	GIFamarine 1100	Unit
Conductivity of heat λ <sub>R</sub>	0.44	0.38	W/(mK)
For floor heating systems λ <sub>10</sub>	0.30	-	W/(mK)
Value of vapor diffusion resistance μ	30 / 50	17	-
Specific heat capacity c	>1000	>1000	J/(kgK)
Thermal extension coefficient α	12.9x10 <sup>-6</sup>	12.9x10 <sup>-6</sup>	1/K
Expansion / shrinkage by rise / drop in temperature	≤0.02	≤0.02	mm/(mK)
Expansion / shrinkage by changing the rel. air humidity on 30% at20°C	0.6	0.6	mm/m
Hygrothermal installation conditions (stationary)	+10° to +35°C	+10° to +35°C	c. 45-75% r.h.
Hygrothermal using conditions (stationary)	-10° to +35°C	+1° to +35°C	c. 35-75% r.h.
Surface water absorption capacity acc. EN 20535 (Kopp-Test)	<300	<300	g/m <sup>2</sup>
Surfaces with transport protecting primer to bond dust and for reduction of water absorption capacity	yes	yes	-
<b>General values of stability acc. to general structural supervisory registration Z-9.1-517</b>			
Surface hardness acc. to Brinell	≥ 40	≥ 20	N/mm <sup>2</sup>
Pull off bond strength	≥ 1.0	≥ 0.6	N/mm <sup>2</sup>
Bending tensile strength	≥ 10.5	≥ 4.2	N/mm <sup>2</sup>
E-Modulus	≥ 6000	≥ 2200	N/mm <sup>2</sup>

See-Berufsgenossenschaft  
Prüf- und Zertifizierungsstelle  
im BG-PRÜFZERT

European notified body  
Identification number 0736

### EC-Type Examination (Module B) Certificate

Certificate No. **107.065** USCG approval No. **164.109/EC0736/107.065**

Name and address of the manufacturer: **Knauf Integral KG  
Am Bahnhof 16, 74589 Satteldorf / Germany**

Date of issue: **02.10.2006**

Annex A.1 Item No & Item designation: **A.1/3.13 - Non-combustible materials**

Product designation: **Non-combustible Panel**

Product Type: **GIFamarine 1100**

Intended purpose: **Non-combustible material complying with SOLAS 74/88 Chapter II-2 Regulation 3.33, as amended, IMO Resolution MSC.97 (73) 7.2.3 (2000 HSC-Code).**

Testing based on (Specific standard): **IMO Res. MSC. 61(67) (FTP-Code), Annex 1, Part 1**

Remarks: **see overleaf**

The type tested was found to be in compliance with the Fire protection requirements of Marine Equipment Directive (MED) 96/98/EC as amended by Directive 2002/75/EC subject to any conditions in the schedule (part of this certificate).

This certificate may only be used in connection with module(s) **D, E or F** of this directive.

Expiry date: **31.10.2011**


The approval of the installed equipment will be in force beyond the validity date until it is revoked!

*Signature (Niehus)*

**Note 1:** This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with the notified body named on this certificate.

**Note 2:** Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply.

**Note 3:** The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX B of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.





xxxx/yy

**Note 4: "Wheelmark" Format**  
YY Last two digits of year mark affixed.  
XXXX Notified Body number undertaking surveillance module

Postal address: Postfach 11 04 89  
20404 Hamburg

Office: Reimerstraße 2  
20457 Hamburg

Tel: 0 403 61 37-0  
Fax: 0 403 61 37 2 04  
In any case, the German original shall prevail.

See-Berufsgenossenschaft  
Prüf- und Zertifizierungsstelle  
im BG-PRÜFZERT

European notified body  
Identification number 0736

### EC-Type Examination (Module B) Certificate

Certificate No. **107.066** USCG approval No. **164.109/EC0736/107.066**

Name and address of the manufacturer: **Knauf Integral KG  
Am Bahnhof 16, 74589 Satteldorf / Germany**

Date of issue: **02.10.2006**

Annex A.1 Item No & Item designation: **A.1/3.13 - Non-combustible materials**

Product designation: **Non-combustible Panel**

Product Type: **GIFamarine 1500**

Intended purpose: **Non-combustible material complying with SOLAS 74/88 Chapter II-2 Regulation 3.33, as amended, IMO Resolution MSC.97 (73) 7.2.3 (2000 HSC-Code).**

Testing based on (Specific standard): **IMO Res. MSC. 61(67) (FTP-Code), Annex 1, Part 1**

Remarks: **see overleaf**

The type tested was found to be in compliance with the Fire protection requirements of Marine Equipment Directive (MED) 96/98/EC as amended by Directive 2002/75/EC subject to any conditions in the schedule (part of this certificate).

This certificate may only be used in connection with module(s) **D, E or F** of this directive.

Expiry date: **31.10.2011**


The approval of the installed equipment will be in force beyond the validity date until it is revoked!

*Signature (Niehus)*

**Note 1:** This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with the notified body named on this certificate.

**Note 2:** Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply.

**Note 3:** The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX B of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.



xxxx/yy

**Note 4: "Wheelmark" Format**  
YY Last two digits of year mark affixed.  
XXXX Notified Body number undertaking surveillance module

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See-Berufsgenossenschaft  
Prüf- und Zertifizierungsstelle  
im BG-PRÜFZERT

# Certificate

No. **06003**  
valid until **26.01.2011**

**The quality system of the company**

**Knauf Integral KG**  
Am Bahnhof 16, D - 74589 Satteldorf

for the products listed in the annex

is in conformity with **Module D (Production Quality Assurance)**  
of the Council Directive 96/98/EC on marine Equipment.

"In pursuance of the EU/USCG Mutual Recognition Agreement, signed February 27th 2004, and in accordance with the Council Decision 2004/425/EC of April 21st 2004, the manufacturer is permitted to affix under our authorization the U.S. Coast Guard approval number on the relevant equipment as assigned by us on the EC type approval certificate (Module B) or the annex thereto."

Translation  
In any case, the German original shall prevail.

Signature *[Signature]*  
(Kolberg)

Hamburg, 31.01.2006

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20404 Hamburg

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20457 Hamburg

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# Certificate

On 25<sup>th</sup> of June 2004 Eurofins Danmark A/S received a sample of a fibre reinforced calcium sulphate panel with edge trim around the panel edges, panel thickness 28 mm, bare finish on top and bottom with the name

**GIFamarine**  
**Knauf Integral KG**

The emissions were tested according to the AgBB-scheme and guidelines of the DIBt (AgBB - Committee for Health-related Evaluation of Building Products, DIBt - German Institute for Building Technology). Sampling, testing and evaluation were performed according to EN 13419-1, EN 13419-3, ISO 16000-3, ISO 16000-6, ISO 16000-9, ISO 16000-11, ISO 16017-1 in the latest versions, see the test report no. 211019-71-181.

**Evaluation of the test result according to AgBB guidelines:**

- Carcinogenic substances were not detectable after 3 and after 28 days.
- The sum of VOC ("TVOC") after 3 days was below the limit of 10.000 µg/m<sup>3</sup>.
- The sum of VOC ("TVOC") after 28 days was below the limit of 1.000 µg/m<sup>3</sup>.
- The sum of SVOC after 28 days was below the limit of 100 µg/m<sup>3</sup>.
- After 28 days the value R was calculated from the detected VOC with single concentrations above 5µg/m<sup>3</sup>. This value R was below the limit of 1.
- The sum of VOC without LCI-value after 28 days was below the limit of 100 µg/m<sup>3</sup>.
- Formaldehyde after 28 days was below the limit of 120 µg/m<sup>3</sup>.

The tested product is suitable for indoor application, according to the AgBB guide line (version July 2004).  
29<sup>th</sup> of June 2008

*[Signature]*  
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### Construction

Knauf Integral GIFamarine large-sized gypsum fibre panels are surface primed raw cut panels for industrial or workshop further treatment to become a finished product. Constructive basics of the further treatment of derived timber products are transferable to the further treatment of GIFamarine.

The non-combustible GIFamarine large-sized gypsum fibre panels are used for manufacturing of furniture in e.g. escape routes or for the impact protection of the walls of corridors of e.g. hospitals instead of the flammable materials wood or derived timber products.

Thin panels of GIFamarine could be bent to curved structures.

The glueing of some GIFamarine panels to get a thicker panel is possible.

GIFamarine 1500 could be used in Knauf drywall constructions to get bullet resistant drywalls. For further information ask your local Knauf company. Protect GIFamarine gypsum fibre material against water by taking suitable measures.

### Grounding

The structure for the installation of GIFamarine has to hold at least the bearing strength for the expected usage load.

It has to be even or to be levelled by installing a levelling layer or being averaged out by the used mounting parts (e.g. glueing system).

Contact points of oily or greasy subgrades with GIFamarine have to be isolated by a suitable barrier layer. Wet subgrades are unsuited for installation of GIFamarine.

### Processing and installation

GIFamarine gypsum fibre material could be cut, milled, drilled, sanded, stapled, nailed, screwed... with the tools and machines used for derived timber products. To reduce the disposal of dust an exhauster is recommended.

Consider the extension of GIFamarine for fixtures on site.

GIFamarine1100 could be processed with HM-tipped tools, diamond-tipped tools are recommended for fast running machines. Screws could be fixed in dependency on type and diameter of the screws without predrilling.

GIFamarine1500 could be processed with HM-tipped tools with slow running machines only. Fast running machines have to be equipped with diamond-tipped tools.

Nails and staples have to be tested in their behavior of permeation. GIFamarine 1500 must be predrilled for using screws.

Notice the weight of a piece of furniture made of GIFamarine, if necessary installation of single parts on site have to be planned.

### Glueing, coating and covering

For glueing of primed GIFamarine panels hohedral PVA adhesives and hot glues are suitable. Bonding has to be tested. Temperature and duration of pressing while hot glueing procedure have to be adjusted.

Application of veneer or laminate only with a countermove application on the back side of the panel.

PU glues like e.g. Nut- / Feder- Klebstoff (glue for tongue and groove) or Knauf Integral Flächenklebstoff (glue for the 2nd layer) are depending on the purpose adaptable. Other glueing systems have to be tested on their usability. Tests of the pull off strength have to be done at least on one specimen.

Fluid coverings like e.g. epoxy resin material or fluid ceramics must be elastified and water vapour permeable.

Elastic coverings like e.g. PVC, linoleum to be glued with suitable adhesive. Inelastic coverings like e.g. ceramic tiles or natural stone must be fixed with flexible mortar in the sufficient thickness.

#### Knauf Direct

Technical Advisory Service:

▶ Phone: +49 9001 31-1000 \*

▶ Fax: +49 1805 31-4000 \*\*

▶ [www.knauf-integral.de](http://www.knauf-integral.de)

#### Knauf Integral KG Am Bahnhof 16, 74589 Satteldorf

\* A rate of 0.39 € per minute will be charged for calls from within the German landline network. Callers whose phone numbers are not registered in the address database of Knauf Gips KG, i.e. private builders or non-patrons, will be charged a rate of 1.69 € per minute. Calls from mobile phones will be charged 1.48 € per minute.

\*\* 0.14 €/Min.

All technical changes reserved. Only the current printed instructions are valid. Our warranty is expressly limited to our products in flawless condition. All application quantities and delivery amounts are based on empirical data that are not easily transferable to other deviating areas. The stated information represents current state-of-the-art Knauf technology. The entire state of approved engineering rules, appropriate standards, guidelines, and rules of craftsmanship are not included herewith. These and all application instructions have to be adhered to separately by the installer. All rights reserved. All amendments, reprints and photocopies, including those of excerpts, require the express permission of Knauf Integral KG, Am Bahnhof 16, 74589 Satteldorf.