

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the LR Type Approval System.

This certificate is issued to:

PRODUCER	Georg Fischer Building Technology Ltd. Ebnatstraße 111 CH-8201 Schaffhausen Switzerland
PLACE OF PRODUCTION	Sternplastic Hellstern GmbH & Co. KG Hegastr. 9 D-78054 Schwenningen
DESCRIPTION	Multilayer (ML) and Polybutene (PB) – plastic pipes, fittings and valves, compression joining techniques (plug in connector)
TYPE	iFIT
APPLICATION	Hot and cold water piping systems on open decks, within tanks, cofferdams, void spaces, pipe tunnels and ducts, on board ships, where flame endurance tests according IMO Res. A.753(18) are not required
RATINGS	Nominal Diameter : D16 – d32 Nominal Pressure : PN 10 Nominal Temperature : 0°C - 70°C
STANDARD	Lloyd's Register Rules and Regulations for Ships, July 2004 DVGW W 534, KTW 270

Certificate No.	05/20013
Issue Date	11 March 2005
Expiry Date	10 March 2010
Sheet	1 of 2



Ramona Zettelmaier
Hamburg Plan Approval Centre
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

RESTRICTIONS

The use of plastic pipes may be restricted by statutory requirements of the National Authority of the country in which the ship is to be registered

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. HMD 14587-05 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No.	05/20013
Issue Date	11 March 2005
Expiry Date	10 March 2010
Sheet	2 of 2



Ramona Zettelmaier
Hamburg Plan Approval Centre
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

"Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract."



Marine Design Appraisal Document

Lloyd's Register EMEA
Hamburg Plan Approval Centre
Mönckebergstr. 27
D-20095 Hamburg
Telephone +49 40 32 81 07 - 0 Fax +49 40 32 81 07 - 480
Email: hamburg-plan-approval@lr.org

Date
11 March 2005

Quote this reference on all future communications
HMD 0410269/14587-05/RZ/BHS

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2002
ISSUED TO: GEORG FISCHER BUILDING TECHNOLOGY LTD.
FOR: iFIT PIPING SYSTEMS
TYPE APPROVAL CERTIFICATE NO. 05/20013**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Form LR6606 Fi 8710/4 (5.04)	Lloyd's Register's Approval Services- Request for Quotation Product Range iFIT 2004 Catalogue	25.10.2004
---------------------------------	--	------------

TEST REPORTS

HPC 0410364	Lloyd's Register Stuttgart Visit Report	20.12.2004
998/095E	Test report	13.12.2004
998/094E	Test report	13.12.2004
998/093E	Test report	13.12.2004
998/092E	Test report	13.12.2004
998/091E	Test report	13.12.2004
998/090E	Test report	13.12.2004
998/089E	Test report	13.12.2004
998/088E	Test report	13.12.2004
998/087E	Test report	13.12.2004
998/086E	Test report	13.12.2004
--	Test report, test no. 30782	07.12.2004
DW-850BP0047	Certificate for a DVGW test mark	04.08.2004
DW-8501BP0059	Certificate for a DVGW test mark	04.08.2004
--	Test report, test no. 30714 d16/20	26.04.2004
157/12828	Test report	06.05.2004

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA
is a member of the Lloyd's Register Group

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Lloyd's Register EMEA
Hamburg Plan Approval Centre
Mönckebergstr. 27
D-20095 Hamburg
Telephone +49 40 32 81 07 - 0 Fax +49 40 32 81 07 - 480
Email: hamburg-plan-approval@lr.org

Date
11 March 2005

Quote this reference on all future communications
HMD 0410269/14587-05/RZ/BHS

Appendix to Marine Design Appraisal Document

TEST REPORTS, cont.

157/12829	Test report	06.05.2004
157/12830	Test report	06.05.2004
157/12831	Test report	06.05.2004
157/12832	Test report	06.05.2004
157/12833	Test report	06.05.2004
157/12834	Test report	06.05.2004
157/12835	Test report	06.05.2004
157/12836	Test report	06.05.2004
157/12837	Test report	06.05.2004
157/12838	Test report	06.05.2004
157/12839	Test report	06.05.2004
157/12840	Test report	06.05.2004
157/12841	Test report	06.05.2004
C-119750-04-Sf/st	Certificate of Hygiene-Institut des Ruhrgebiets	05.08.2004
C-119751-04-Sf/st	Certificate of Hygiene-Institut des Ruhrgebiets	05.08.2004
--	SQS Certificate	19.02.2002

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.



Ramona Zettelmaier (Ext. -462)
Surveyor
Hamburg Machinery Design Appraisal Dept.
Lloyd's Register EMEA
ramona.zettelmaier@lr.org

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA
is a member of the Lloyd's Register Group