



CERTIFICATE OF TYPE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Leafield Marine Ltd
Address	9 Atworth Business Park Atworth Bath Road, SN12 8SB United Kingdom (UK)
Product Type	HOSE ASSEMBLY FOR USE IN GAS INFLATION SYSTEM
Product Description	A range of flexible hoses for use in GAS Inflation Systems Marine Inflatable Life Saving Appliance. Defined on Drawing PD11541, PD11555 and PD11586
Specified Standards	ISO 15738 (2002) ISO 9650 Part 1 (2005) Part 2 (2005) Part 3 (2009)

The attached Design Appraisal Document forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue 2 July 2018

Expiry date 1 July 2023

Certificate No. SAS S180046

Signed

Sheet No 1 of 4

Name

L. Thomas
Surveyor to Lloyd's Register EMEA
A Member of the Lloyd's Register Group

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid certificate.

Lloyd's Register Group Limited, 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'. Lloyd's Register 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 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.



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DESIGN APPRAISAL DOCUMENT

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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS S180046

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions, and this Design Appraisal Document forms part of the Certificate.

EXAMINED DOCUMENTATION

Drawing No.	Rev.	Date	Title or Description
PD11541	01b	27/10/17	Hose Assemblies ¼ Bore EN857-1SC.
11401	01	04/06/13	Hose Assemblies (90° Quick Connect to male Saginaw) (Plated Steel Fittings).
11514	01	04/06/13	Hose Assemblies (90° Quick Connect 3/8" BSPF Flat Face) (Plated Face).
11523	01	04/06/13	Hose Assemblies (90° Quick Connect to 90° Quick Connect) (Plated Steel Fittings).
11524	01	04/06/13	Hose Assemblies (90° Quick Connect to Male Saginaw) (Stainless Steel Plate).
11526	01	04/06/13	Hose Assemblies (90° Quick Connect 3/8" BSPF Flat Face) (Stainless Steel Fittings).
11527	01	04/06/13	Hose Assemblies (1/4" BSP Female Con. to 1/4" BSP Male) (Stainless Steel Fittings).
11529	01	04/06/13	Hose Assemblies (1/4" BSPF Con. to 1/4" BSPF Con.) (Stainless Steel Fittings).
11532	01	04/06/13	Hose Assemblies (1/4" BSPF Con. to 3/8" BSPF Flat Face) (Stainless Steel Fittings).
11534	01	30/01/14	Hose Assemblies (¾ BSP Female Flat Face to ¾ BSP Female Flat Face 90° Swept Elbow) (Stainless Steel Fittings)
11535	01	04/06/13	Hose Assemblies (1/4" BSPM to 3/8" BSPF Flat Face) (Stainless Steel Fittings).
11543	01	30/01/14	Hose Assemblies (¾ BSP Flat Face Swept 90° Elbow to ¾ BSP Flat Face Swept 90° Elbow) (Stainless Steel Fittings).
11544	01	04/06/13	Hose Assemblies (1/4" BSP Female to 1/4" BSP Female) (Plated Steel Fittings).
11546	01	16/08/13	Hose Assemblies (90° Quick Connect to ¼ BSP Male Conical) (Stainless Steel Fittings)
11549	01	28/01/14	Hose Assemblies (90° Quick Connect to 90° Quick Connect opposed fittings) (Stainless Steel Fittings)
11550	01	27/05/14	Hose Assemblies (¾ BSPF Flat Face to ¾ BSPF Flat Face) (Plated Steel Fittings).
11551	01	10/02/14	Hose Assemblies (¾ BSPF Flat Face to DKO-L M18 x 1.5) (Stainless Steel Fittings)
11552	01	11/02/14	Hose Assemblies (¾ BSPF Flat Face to MK14 Banjo) (Stainless Steel Fittings)
11553	01	12/02/14	Hose Assemblies (¾ BSPF Flat Face to ¼ BSP Male Conical) (Stainless Steel Fittings)
11554	01	10/02/14	Hose Assemblies (¾ BSPF Flat Face to ¾ BSPF Flat Face) (Stainless Steel Fittings)
18976	01b	20/09/16	Hose Specification Leaffield polar ¼", Maximum working pressure 225 bar
PD11586	01a	01/06/16	Hose assemblies ¾" bore hyperline PTFE, Maximum working pressure 230 bar
PD11555	01c	15/06/17	Hose Assemblies ¾" bore EN857-1SC, Maximum working pressure 180 bar
19018	01	11/04/13	Hose Specification Leaffield Polar 3/8", Maximum working pressure 180 bar
			High performance poppet type coupling, Series 525, DN 12.5
			Quick release coupling, ISO 7241-1, B standard



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TEST REPORTS

Report of the statutory approval testing of Hose Assemblies for use in GAS Inflation System.	M-07-TR-3HOSE	21/05/13
Report of the statutory approval testing of the 3/8" Hose Assemblies for use in GAS Inflation System	M-07-TR-5HOSE	24/04/14
Gas Inflation System Hose Assemblies test for 3/8" PTFE Hyperline Hose with stainless steel fittings, 1/4" Polyhose 1SC with stainless steel fitting, 1/4" Polyhose 1SC with zinc/nickel plated mild steel fittings, 1/4" & 3/8" Leaffield Polar 1SC I with zinc/nickel plated mild steel fittings.	SOU 1601236/01	31/01/16
3/8" PTFE Hyperline Hose , 1/4" Polyhose, stainless steel DKOL and CO ₂ fittings	M-07-TR-7HOSE	26/10/17
Test for the approval of quick coupling assemblies series 525 and ISO7241 to ISO 15738 for use in gas inflation systems	M-07-TR-9HOSE, Rev 01	02/07/18

CONDITIONS OF CERTIFICATION

1. The hoses are only to be used and maintained in accordance with the user Manual M-07-UM-Hose
2. The hoses are only approved for used on inflatable Marine Lifesaving Appliances
3. The hoses must be used within their specified pressure ratings
4. The final determination of suitability of a system shall be made on the basis of testing the end product in which the hose is to be used in accordance with the appropriate IMO Resolution MSC.81 (70)
5. If the specified standards be amended during the validity of this certificate, this product type is to be re-approved prior testing supplied to vessels to which the amended standards apply
6. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure compliance with SOLAS Regulation III/5
7. Production tests are to be conducted in accordance with the applicable requirements of IMO Resolution MSC.81 (70), Part 2, and Paragraph 1.2. This does not preclude any further testing to additional requirements of the Marine Administration of the country where the ship is registered (i.e. the flag state or those acting in behalf of that Administration
8. Should a change of Place of Production from that stated below be required i.e. where the stages of manufacture/assembly/testing of this product take place, the new Place of Production is to be advised to us prior to the change taking place. This Certificate will require to be updated for Approval to be maintained



Lloyd's
Register

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PLACE OF PRODUCTION

Leaffield Marine Limited
9 Atworth Business Park
Bath Road
Atworth
Wiltshire, SN12 8SB
United Kingdom (UK)



Lijo Thomas
Senior Specialist
Fire & Safety, Statutory Discipline Team
UK&I Technical Support Office, Marine & Offshore
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) 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 products designed or manufactured otherwise than in strict conformity with the said prototype(s).