



## 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.

<b>Manufacturer</b>	Takashina Life Preservers Co., Ltd
<b>Address</b>	1-1-30 Kuboyoshi, Naniwa-Ku Osaka, 556-0028 Japan
<b>Product Type</b>	INSULATED IMMERSION SUIT
<b>Product Description</b>	Inherently buoyant insulated immersion suit with buoyant head support - Type: "TK-007SE" (Adult Universal & Oversize)
<b>Specified Standards</b>	IMO Resolution MSC.81(70) as amended by resolution MSC 226(82)

**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 26 April 2010

Expiry date 25 April 2015

Certificate No. SAS S100049

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, 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."

**DESIGN APPRAISAL DOCUMENT**

Date 26 April 2010	Quote this reference on all future communications LDSS/TA/SFS/LT
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**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS S100049**

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**
***TK-00TSE***

<b><u>Drawing No.</u></b>	<b><u>Issue Date</u></b>	<b><u>Drawing Title</u></b>
TK020705-B01R6	22-02-10	ILL.1 Finished Products (Outer) TK-007SE
TK020705-B02R5	22-02-10	ILL.2 Finished Products (Inner) TK-007SE
TK020705-B03R6	22-02-10	ILL.3 Finished Products – Dimensions & Weight (Outer) TK-007SE
TK020705-B04R4	22-02-10	ILL.4 Finished Products – Dimensions (Inner) TK-007SE
TK020705-B05R6	22-02-10	ILL.5 Locations of the welded tapes (Outer shell) TK-007SE
TK121305-01	12-13-05	ILL.6 Finished Product (Outer)
TK041905-01R4	03-20-07	Donning instructions – Product TK-007S/SE/SE-G
TK041905-04R4	02-08-07	Donning instructions – Bag - Adult Universal TK-007SE
TK041905-05R4	02-08-07	Donning instructions – Bag - Adult Oversize TK-007SE
TK20050720-A01R2	02-07-07	TK-007SE MED Labels
TK20050609-A01R1	07-07-06	Bill of materials for model TK007SE

***TK-007SE-G Variant***

<b><u>Drawing No.</u></b>	<b><u>Issue Date</u></b>	<b><u>Drawing Title</u></b>
TK112206-A01R2	22-02-10	ILL.1A Finished Products (Outer) TK-007SE-G (without latex glove)
TK112206-B01R3	22-02-10	ILL.2A Finished Products (Inner) TK-007SE-G
TK112206-C01R1	22-02-10	ILL.3A Finished Products Dimensions & Weight (Outer) TK-007SE-G
TK112206-D01R2	22-02-10	ILL.4A Finished Products Dimensions (Inner) TK-007SE-G
TK112206-E01R0	11-22-06	ILL.6A Finished Products (Outer) TK-007SE-G (harness option)
TK112206-A01R2	22-02-10	ILL.5A Locations of the welded tapes (Outer Shell) TK-007SE-G
TK20070117-A01R0	17-01-07	Bill of materials for model TK007SE-G (without latex glove)
TK20070117-A02R0	17-01-07	Bill of materials for model TK007SE-G (without latex glove)
TK20070131-A01R1	02-07-07	MED Labels for model TK-007SE-G
TK012607-02R1	02-08-07	Donning instructions – Bag – Adult Oversize TK-007SE-G
TK012607-01R1	02-08-07	Donning instructions – Bag – Adult Universal TK-007SE-G

**TEST REPORTS**

Prototype Test Reports Nos. LPA/FSS/1-7TX9E dated 28 January 2005 and LPA/FSS/1-7VY0B dated 14 February 2005, witnessed by Lloyd's Register EMEA at Thelma AS laboratory in Trondheim (Norway).

Lloyd's Register Quality Assurance Report No. 8724931/0001 and Visit Report No. SHI1-80Z3P, dated 1 April 2005.

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Thelma AS Letter dated 16 February 2005 and Letter Ref. Adm-042.1/0068/05 dated 16 March 2005.

TÜV Test Report No. 21118550 001 dated 18 March 2005.

LR Donning Test Report Certificate No. KOB051035/1 dated 21 November 2005

**CONDITIONS OF CERTIFICATION**

1. The measured buoyancy of this immersion suit design is 207.5 N.
2. This immersion suit has been satisfactorily tested and found suitable for adult persons within a height range of 1.40 – 1.95 metres (Universal Size) and 1.80 – 2.10 metres (Oversize).
3. This immersion suit has been satisfactorily tested and found suitable for adult persons within a weight range of 50-120 kg (Universal Size) and > 90kg (Oversize).
4. The immersion suit is to be fitted with retro-reflective material in accordance with IMO Resolution A.658 (16), as it may be amended.
5. Each immersion suit and its packaging shall be permanently and clearly marked at least with: identification of the manufacturer and the model designation, the size and height range of persons suitable to wear the immersion suit, simple donning instructions and approval information.
6. Each immersion suit shall be supplied with an explanatory leaflet containing instructions for care and maintenance of the immersion suit. When carrying out the inspection of immersion suits as required by SOLAS regulation III/20.7.2 consideration should be given to IMO MSC/Circ.1047 on **Guidelines for Monthly Shipboard Inspection of Immersion Suits and Anti-exposure Suits by the Ship's Crew**.
7. An approved light and whistle meeting the requirements of LSA Code regulations II/2.2.3 and II/2.2.1.14, respectively, are to be fitted. The light or lights selected to be attached to the immersion suit shall be tested to the requirements of IMO Resolution MSC.81(70), I/10.3.3 to confirm the adequacy of their means of attachment.
8. The on board arrangements and installation of this product are not part of this design appraisal or certificate. All such arrangements are to be to the satisfaction of the Surveyors attending on board.
9. If the specified standards are amended during the validity of this certificate, this product type is to be re-approved prior to it being supplied to vessels to which the amended standards apply.
10. 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.
11. Production tests are to be conducted in accordance with the applicable requirements of IMO Resolution MSC.81(70), Part 2 and each item, batch, or lot be delivered with an LR Certificate of SOLAS Production Testing issued by the attending LR Surveyors following their witness of the tests. 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 on behalf of that Administration.
12. 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.

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**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS S100049****PLACE OF PRODUCTION**

Shanghai Haishi Sports &amp; Life Preservers Co., Ltd.

266 Ruixiang Lu

Pudong, Shanghai 201209

People's Republic of China



L. Thomas

Surveyor

Statutory Fire &amp; Safety

London Design Support Services

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).*