



PRODUCT SAFETY DATA SHEET

PRODUCTS: L7A2/L6-Ex/L6A-Ex/L160/L170/M2/W2

SECTION 1: IDENTIFICATION

PRODUCT NAME	Marine Safety Light Systems L7A2/L6-Ex/L6A-Ex/L160/L170
MANUFACTURERS NAME	DANIAMANT LIMITED
DESCRIPTION	Lithium powered marine safety light systems are designed to be stored for up to five years before use. The battery cells are hermetically sealed, pressurised primary Manganese dioxide lithium and as supplied are electronically protected by a fuse and from external environment by a moulded plastic casing. In this state the units constitute no definable hazard to health. However, disassembly, abuse or destruction of the battery cell will expose the contents and the following Health and Safety Hazards.

SECTION 2: INFORMATION OF INGREDIENTS

HAZARDOUS COMPONENTS:					
	CAS NUMBER	EC Number	% OPTIONAL	OSHA/PEL	ACGIH TLV 5 TEL
Carbon Black	1333-86-4	215-609-9	2.25%		
Lithium Metal	7439-93-2	231-102-5	3.24%	N/A	N/A
Manganese Dioxide	1313-13-9	215-202-6	40.56%	5mg/m3	5mg/m3
Propylene Carbonate	108-32-7	203-572-1	6.75%	N/A	N/A
1.2 Dimethoxyethane	110-71-4	203-794-9	5.78%	N/A	N/A
Lithium Perchlorate	7791-03-9	232-237-2	1.53%	N/A	N/A
Tetrahydrofuran	109-99-9	203-726-8	5.89%	200 ppm	200 ppm
Reference: Sax's dangerous properties of industrial materials.					
NOTE: These products do not contain asbestos.					

SECTION 3: HAZARD IDENTIFICATION

LITHIUM METAL:	This is flammable when in contact with water. It reacts violently to produce hydrogen and lithium hydroxide. Use only soda ash, sodium chloride or graphite to extinguish flames.
MANGANESE DIOXIDE:	Poison by intravenous and intratracheal routes moderately toxic by subcutaneous route. Experimental reproductive effects. A powerful oxidiser, flammable by chemical reaction. Must not be heated or rubbed in contact with easily oxidizable matter.
1.2 DIMETHOXYETHANE:	Experimental teratogen. Other experimental reproduction effects readily forms an explosive peroxide. A very dangerous fire hazard when exposed to flame, heat or oxidisers. When heated to decomposition it emits acrid smoke and fumes
LITHIUM PERCHLORATE:	Moderately toxic. Skin, eye and mucous membrane irritant an oxidiser which is incompatible with nitromethane acetone hydrogen and oxygen. When heated to decomposition it emits very toxic fumes.

SECTION 4: FIRST AID MEASURES

EYES:	Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.
INHALATION:	Remove from exposure, rest and keep warm. In severe cases, or if exposure has been great, obtain medical attention.
SKIN:	Drench the skin thoroughly with water. Remove contaminated clothing and wash before re-use. Unless contact has been slight, obtain medical attention.
INGESTION:	Wash out mouth thoroughly with water and give plenty of water to drink. Obtain medical attention.
FURTHER TREATMENT:	All cases of eye contamination, persistent skin irritation and casualties who have swallowed this substance or been affected by breathing its vapours should be seen by a doctor.
EMERGENCY AND FIRST AID PROCEDURES:	If cell vents, personnel should be evacuated from contaminated areas. Other materials are either inert or have low hazard associated with their exposure.

SECTION 5: FIRE FIGHTING MEASURES

Copious quantities of a water based foam or dry sand are the only recommended extinguishing media for fires involving cells. IF a fire is in an adjacent area, and cells are packed in their original containers, the fire can be fought based on fuelling material e.g. paper and plastic products. Avoid fume inhalation.

In the case where significant quantities of lithium manganese dioxide batteries have been involved in a fire, account must be taken of the possibility that flammable gases might be evolved should water come into contact with the cold battery residues. These gases might include Acetylene, Hydrogen and Cyanide. It is recommended that ventilation should be maximised should this scenario be realised.

EXTINGUISHING MEDIA: Copious quantities of water based foam and dry sand.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Do not breathe vapours or touch liquid with bare hands. If the skin has come into contact with the electrolyte it should be washed thoroughly with water. Earth or sand should be used to absorb the exudation, seal leaking battery and earth in a heavy-duty polythene bag and dispose of as special waste.

SECTION 7: HANDLING AND STORAGE

Handle and store in cool, well-ventilated area. Keep out of direct sunlight.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

HANDLING	Do not short circuit or expose to temperatures above the temperature rating of the battery. Do not recharge, over-discharge, force discharge, immerse, puncture or crush.
STORAGE	Store in a cool place but prevent condensation on cells and batteries. Elevated temperatures can result in shortened battery life and degrade performance. Do not store batteries in high humidity environments for long periods. External corrosion of the Nickel plated can and tags could result in the formation of toxic metal salts. Avoid ingestion, observe personal hygiene wash hands after contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Light in a plastic housing.
ODOUR	If leaking, smells of medical ether.
STABILITY IN WATER	Product is waterproof.
REACTION WITH WATER	Only if damaged.
FLASH POINT	Not applicable unless individual components exposed.
FLAMMABILITY	Not applicable unless individual components exposed.
RELATIVE DENSITY	Not applicable unless individual components exposed.
SOLUBILITY IN WATER	Not applicable unless individual components exposed.
SOLUBILITY OTHER	Not applicable unless individual components exposed.

SECTION 10: STABILITY AND REACTIVITY

Hazardous materials are housed within a hermetically sealed unit, under normal conditions this unit is Non-Hazardous.

HAZARDOUS REACTIONS	Lithium metal reacts with water to produce highly flammable gasses.
HAZARDOUS DECOMPOSITION REACTIONS	Toxic fumes, and may form peroxides.

SECTION 11: TOXICOLOGICAL INFORMATION

SIGNS & SYMPTOMS	NONE, unless battery ruptures. In the event of exposure to internal contents, corrosive fumes will be very irritating to skin, eyes and mucous membranes. Over-exposure can cause symptoms of non-fibrotic lung injury and membrane irritation.
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INHALATION	Lung irritation.
SKIN CONTACT	Skin irritation.
EYE CONTACT	Eye irritation.
INGESTION	Poisoning if swallowed.
GENERALLY AGGREGATED BY EXPOSURE.	In the event of exposure to internal contents, eczema, skin allergies, lung injuries, asthma and other respiratory disorders may occur.

SECTION 12: ECOLOGICAL INFORMATION

MAMMALIAN EFFECTS	None known at present.
ECO-TOXICITY	None known at present.
BIOACCUMULATION POTENTIAL	Slowly bio-degradable.
ENVIRONMENTAL FATE	None known environmental hazards at present.

SECTION 13: DISPOSAL

DISPOSAL	DO NOT INCINERATE, or subject cells to temperature in excess of 90°C. Such abuse can result in loss of seal, leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations. DO NOT ATTEMPT TO DISMANTLE THIS PRODUCT.
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SECTION 14: TRANSPORT INFORMATION

UN Hazard Code	Class 9
UN Number	3091
UN Proper Shipping Name	Lithium Metal Batteries Contained in Equipment.
IATA Packing Instructions for air	970, Section II
IMDG Packing instructions for road and sea	P903 Special Provision 188 and 230
Lithium Content	0.6g (Lithium metal cell)

Total Battery Weight	18g (Weight of Individual Cell 18g)
Labelling	As per IATA, IMDG & ADR requirements
Battery Test Criteria	Tested to UN ST/SG/AC.10/11/Rev.5/Amend.1 Criteria III Section 38.3. (Test Certificate available on request). Each cell and battery incorporates a safety venting device. Each cell and battery is equipped with an effective means of preventing external short circuits and reverse current flow.

SECTION 15: REGULATORY INFORMATION

Risk Phrases	R8 R11 R14/15 R17 R19 R20 R21 R22 R34 R36/37/38 R41	Contact with combustible material may cause fire. Highly flammable Reacts violently with water liberating extremely flammable gases Spontaneously flammable in air. May form explosive peroxides. Harmful by inhalation. Harmful in contact with skin Harmful if swallowed Causes burns. Irritating to respiratory system and skin. Risk of serious damage to the eyes
Safety Phrases	S1/2 S8 S16 S17 S24/25 S26/27 S29 S33 S36 S37 S38 S43 S45	Keep locked up and out of the reach of children Keep away from moisture Keep away from sources of ignition – no smoking. Keep away from combustible material. When using do not eat, drink or smoke. In case of contact with eyes, rinse immediately with plenty of water. Do not empty into drains. Take precautionary measures against static discharges. Wear suitable protective clothing. Wear suitable gloves. In case of insufficient ventilation wear suitable respiratory equipment. In case of fire, see fire-fighting precautions. In case of incident, seek medical attention.

SECTION 16: OTHER INFORMATION

Disclaimer	This PSDS is provided for information only. The information and recommendations set forth herein are made in good faith and are believed to be accurate as of the date of preparation. However, the company makes no warranty, either expressed or implied with respect to this information and disclaims all liability from reliance on. It is the shippers responsibility to ensure that they are trained and competent in handling and shipping lithium batteries by all transport modes.
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07 October 2019



COMMERCIAL-IN-CONFIDENCE

TEST HOUSE CERTIFICATE

CLIENT Daniamant Limited

DOCUMENT

75929303 THC 01 Issue 2

CLIENT'S ORDER NUMBER

PC0001458, dated 02.02.2015

INCOMING RELEASE NOTE

Not Released

DATE OF RECEIPT

10 February 2015

EQUIPMENT UNDER TEST (EUT)

Survivor Location Lights, as stated below (x9 units tested)

MODEL/PART NUMBERS(S)

	Description	Model	TSR No* [*]
1	External Raft Light	Rescue Master 2B	001
2	Lifebuoy Light	L170	002
3	Lifebuoy Light	L160	003
4	Lifebuoy Light	L161	004
5	Lifebuoy Light	L162	005
6	Lifebuoy Light	L163	006
7	Hand Held LED Distress Flare	ODEO Mk.3	007
8	Lifebuoy Light	L90	008
9	Life Raft External Light	RL6	009

* Test Sample Registration Number

TEST SPECIFICATION / ISSUE

EN 60529:1992. Table III, Table VIII and clause 14.2.7.

DEVIATIONS FROM THE STANDARD

None

DATE OF TEST

11 February 2015

TEST(S) DESCRIPTION

Protection Against Ingress by Immersion in Water (IPX7)

The following test was required by the specification:

1. Immediately prior to the test examine each EUT. Manually switch each EUT to ON and OFF.
2. Immerse each EUT in water so that the lowest point of the EUT is 1000 mm below the surface of the water, and for a duration of 30 mins.
3. On completion of the test re-examine the units. Note any conspicuous ingress of water. Manually switch each EUT to ON and OFF.

RESULT(S) OF TEST

The test requirements were satisfied. No water ingress, other damage or detrimental effects were observed or reported during or on completion of the test. When switched ON after the test all lights operated and/or flashed satisfactorily as required and as compared to the operation prior to the test. Items 1 and 9 required the connection of an external battery source before they were operated.

This certificate relates only to the actual item/items tested.

This THC has been up-issued to Issue 2 to correct an incorrect description applied to item 9 (RL6 unit)

Approved by


G Stephens
Authorised Signatory



Date 4 March 2015



COMMERCIAL-IN-CONFIDENCE

TEST HOUSE CERTIFICATE

CLIENT Daniamant Limited

DOCUMENT 75929802 THC 01 Issue 1

CLIENT'S ORDER NUMBER PC0001483, dated 11.03.2015

INCOMING RELEASE NOTE

Not Released

DATE OF RECEIPT

18 March 2015

EQUIPMENT UNDER TEST (EUT)

Survivor Location Lights, as stated below (x11 units tested)

MODEL/PART NUMBERS(S)

	Description	Model	TSR No *
1	External Raft Light	Rescue Master 2B	001
2	Lifebuoy Light	L170	002
3	Lifebuoy Light	L160	003
4	Lifebuoy Light	L161	004
5	Lifebuoy Light	L162	005
6	Lifebuoy Light	L163	006
7	LED Distress Flare	ODEO Mk.3	007
8	Lifebuoy Light	L90	008
9	Life Raft External Light	RL6	009
10	Lifejacket Light	L6-Ex	010
11	Lifejacket Light	L6A-Ex	011

* Test Sample Registration Number

TEST SPECIFICATION / ISSUE

EN 60529:1992. Table III, Table VIII and clauses 14.2.8 & 14.3.

DEVIATIONS FROM THE STANDARD

None

DATE OF TEST

19 March 2015

TEST(S) DESCRIPTION

Protection Against Ingress by Immersion in Water (IPX8)

The following test was required by the specification:

1. Immediately prior to the test examine each EUT. Manually switch each EUT to ON and OFF.
2. Immerse each EUT in water and increase the surface air pressure to 5 bar to reproduce the pressure equivalent to an immersion depth of 50 metre. Maintain the immersion for a period of 30 mins.
3. On completion of the test re-examine the units. Note any conspicuous ingress of water. Manually switch each EUT to ON and OFF.

RESULT(S) OF TEST

The test requirements were satisfied on all units.

On completion of the test there was no evidence of water ingress to the following units; 1, 2, 3, 4, 5, 7, 9, 10 & 11. Unit 6 indicated a weight gain of 16 g. Unit 8 indicated a weight gain of 3 g. Water ingress is acceptable provided it does not interfere with the light operation (spec ref 14.3). All units were manually operated satisfactorily after the test, except units 1 and 9 as these units were supplied without a power supply. The client representative subsequently reported that these lights operated satisfactorily. Unit 8 (L90) suffered permanent distortion of the buoyancy chamber after the test. The client's representative advised that the maximum recommended depth to avoid distortion of this unit was exceeded.

This certificate relates only to the actual item/items tested.

Approved by

G M Stephens
Authorised Signatory



Date 09 April 2015



Lloyd's
Register



Transport
Canada
Safety and Security

CERTIFICATE OF TYPE APPROVAL ISSUED ON BEHALF OF TRANSPORT CANADA

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations with regards to 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 when authorised by Transport Canada to issue the relevant certificates, licences, permits etc.

Manufacturer Daniamant Limited

Type **POSITION INDICATING LIGHTS FOR LIFE-SAVING APPLIANCES : FOR LIFEBUOYS**

Description Self-activated light for use on lifebuoys – **Type: "L170, L170 Nammo, L170 Apollo, L170 Crewsaver, L170 Survitec, L170 Plastimo, L170 Fitzwright"**

Specified Standard TP 14475E
IMO Resolution MSC 81(70) Part 1 as amended

**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 23 October 2017 Expiry date 22 October 2022

Certificate No. LRTC 0000181 Signed 

Sheet No 1 of 3 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

Date	Quote this reference on all future communications
23 October 2017	SOUTSO/SFS/TA/LT/WP27423868

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LRTC 0000181

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

Technical File No TF019 Revision No 4, January 2017
Installation and Maintenance Instruction, L170 Lifebuoy Light, Document No 61-113-002, Issue 01 (C6528)
Installation and Maintenance Instruction, L170 Lifebuoy Light, Document No 61-113-001, Issue 02 (C6528)
Installation and Maintenance Instruction, L170 Lifebuoy Light, Document No 61-113-003, Issue 01 (C6528)

TEST REPORTS

Test Report No.14-01 "L170" Drop test dated 25th March 2014, witnessed by TUV product Service Ltd.
Imo resolution MSC.81(70) Testing of the L170 lifebuoy Lights, Test Report No.75923042 report 01, issue 2, dated November 2013, witnessed by TUV product Service Ltd.

CONDITIONS OF CERTIFICATION

1. Maximum installation height: 76 m
2. Lights powered by batteries shall be marked with a means of determining their age or the date by which they are to be replaced Each light is to be marked with the information required by the LSA Code Regulation 1.2.2.9 and 1.2.3
3. For compliance with SOLAS Regulation III/35 and III/36 fully detailed operations and maintenance manuals shall be supplied with each light
4. The arrangements and installation of the lights on board are not part of this design appraisal or certificate and are to be to the satisfaction of the Surveyors attending on board
5. 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
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 items are to be manufactured in accordance with a quality control procedure and records kept as required by MSC.81(70) Part 2, Paragraph 1.2. Production tests are to be conducted to ensure compliance with SOLAS Chapter III Regulation 5. 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
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



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DESIGN APPRAISAL DOCUMENT

Date 23 October 2017	Quote this reference on all future communications SOUTSO/SFS/TA/LT/WP27423868
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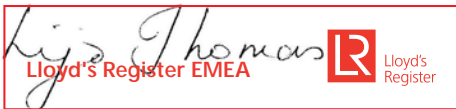
ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LRTC 0000181

9. All instructions or markings that accompany life-saving appliances or are printed directly on the appliances must be in both English and French, as per Canadian procedures for approval of life-saving appliances and fire safety systems, equipment and products document no. TP 14612E (05/2011) paragraph 2.2.1.3. However independent signage can be accepted in lieu of the instructions or marking required in paragraph 2.2.1.3 if it is in both English and French, highly visible (size, colour, posting location), water and weather proof and posted at each muster station and where the appliance is stored

PLACES OF PRODUCTION

Daniamant Ltd

Daniamant A/S



Lijo Thomas
Senior Specialist
Statutory Fire & Safety
Southampton 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).

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Position indicating lights for life-saving appliances: (b) for lifebuoys

with type designation(s)

Type L170, L170 Nammo, L170 Apollo, L170 Crewsaver, L170 Survitec, L170 Plastimo and L170 Fitzwright

Issued to

Daniamant Ltd

Portsmouth, Hampshire, United Kingdom

is found to comply with the requirements in the following Regulations/Standards:

Regulation (EU) 2019/1397,

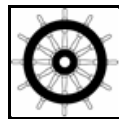
item No. MED/1.2b. SOLAS 74 as amended, Regulation III/4, III/7, III/22, III/32, III/34 & X/3, LSA Code, 2000 HSC Code 8

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until 2024-10-10.

Issued at Hamburg on 2019-10-11

DNV GL local station:
Denmark CMC



for DNV GL SE

Approval Engineer:
Nicolay Horn

Notified Body
No.: 0098

Gerhard Aulbert
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as **allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment"**, signed February 27th, 2004.

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body.** The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

Job Id: 344.1-009924-1
Certificate No: MEDB0000613

Product description

Self-activated lights for use on lifebuoys – Type L170, L170 Nammo, L170 Apollo, L170 Crewsaver, L170 Survitec, L170 Plastimo and L170 Fitzwright

Application/Limitation

Lights powered by batteries shall be marked with means of determining their age or the date by which they are to be replaced.

For compliance with SOLAS Regulation III/35 and III/36, fully detailed operations and maintenance manuals shall be supplied with each light.

Maximum installation Height: 76 m.

Type Examination documentation

Technical file doc. No. TF019, revision 04, January 2017

Installation and Maintenance Instruction, L170 Lifebuoy Lights, Document No 61-113-001, Issue 02 (C6528)

Installation and Maintenance Instruction, L170 Lifebuoy Lights, Document No 61-113-002, Issue 01 (C6528)

Installation and Maintenance Instruction, L170 Lifebuoy Lights, Document No 61-113-003, Issue 01 (C6528)

Test report No	Title	Date
14-01	"L170, Drop test", witnessed by TUV product service Ltd	2014-03-25
75923042, report 01, Issue 2	IMO resolution MSC 81(70), Testing of L170 Lifebuoys Lights, witnessed by TUV product service Ltd	2013-11

Tests carried out

- IMO Resolution MSC.81(70), part 1, as amended
- IEC 60945:2002 incl. IEC 60945 Corr. 1 (2008)

Marking of product

To be marked with information requested by the LSA Code Paragraph 1.2.2.9 and 1.2.3

- Manufacturer name
- Type identification
- Serial or Lot number
- Date of expiry
- USCG Approval Number: USCG 161.110/EC0098/ MEDB0000613

END OF CERTIFICATE

TEST CERTIFICATE

CLIENT: TÜV SÜD Product Service

CERTIFICATE NUMBER 13063/01 Issue 02

CUSTOMER ORDER NUMBER 10010649

TÜV REFERENCE 75929303

DATE OF RECEIPT

17 February 2015

EQUIPMENT SUPPLIER

Daniamant Limited

TEST ITEM(S)

TSR	Identity	Description	Quantity	PTL ID
010	Rescue Master 2B	Life Raft Light	1	19486
011	L170	Lifebuoy Light	1	19487
012	L160	Lifebuoy Light	1	19489
013	L161	Lifebuoy Light	1	19490
014	L162	Lifebuoy Light	1	19491
015	L163	Lifebuoy Light	1	19492
016	ODEO Mk.3	Hand Held LED Distress Flare	1	19493
017	L90	Lifebuoy Light	1	19494
018	RL6	Life Raft External Light	1	19495

TEST SPECIFICATION / ISSUE

BS EN 60529:1992 +A2:2013 IP6X Cat 1

DATE OF TEST

18 February 2015

TEST(S) APPLIED

Protection Against Solid Foreign Objects, Dust-Tight

Initially the units were examined for apertures and openings allowing penetration of a 1mm diameter probe applied with a force of 1 N.

Prior to testing a vacuum of 19.9 mbar was applied to each item individually, the airflow was below measurable therefore an 8 hour test was required. A 19.9 mbar vacuum was applied to each of the units for the duration of the test. The test conditions were as follows:

Dust Grade: BS EN 60529 Talc Test Dust

Concentration: 2 kg/m³

Duration: 8 hrs

Temperature/Humidity: 26 °C / 35% rh

TEST CERTIFICATE

CLIENT: TÜV SÜD Product Service

CERTIFICATE NUMBER 13063/01 Issue 02

CUSTOMER ORDER NUMBER 10010649

TÜV REFERENCE 75929303

RESULT(S) OF TEST

IP6X

There were no apertures permitting entry with a 1 mm diameter probe when using a force of 1 N.

On completion of the dust test excess dust was removed by light brushing, no conspicuous damage was noticed on the exterior of the units.

Instructions were supplied by the customer to perform functional assessment on the units (with the exception of 010 & 018). All lights performed satisfactorily.

Each unit was opened for inspection, where necessary the units were cut open; there was no visible dust ingress into the Survivor Location Lights.

COMPLIANCE

The Survivor Location Lights conform to the standard required by BS EN 60529:1992 +A2:2013 IP6X Category 1.



Approved by
G J Spicer, MEng
Managing Director

Date: 04 March 2015