

Certificate of Inspection

EPIRB Oil Resistance Test



Certificate number: QINETIQ/D&TS/SES/TC0615574
Date of issue: 8/12/2006
Issue: 1.0

EMC Facility
QinetiQ Farnborough
Ively Road, Farnborough
Hampshire. GU14 0LX, UK
Telephone : 01252 394009
Facsimile : 01252 397058

Administrative Information

Customer: Sales Ref McMurdo Ltd 06/212
Customer Representative: Mr D Carr
Equipment under test: S-VDR Capsule/EPIRB in hydrostatic housing
 G5 EPIRB and G5/E5 hydrostatic housing
Build Standard: Declared as Production units
Test specifications: BS EN 61097-2: 2000 Clause 3.3.7 (IEC 60945, Clause 8.11)
Inspection date: 16 & 23 November 2006
Modes of operation: Standby, Self Test, Operational
Compliance engineer: P J Goddard
Location of Inspection: McMurdo Ltd, Silverpoint, Portsmouth
Test equipment used WS Technologies Inc. Handheld (PDA) EPIRB test receiver

Test Item Details

Item No	Item	Type
1	McMurdo S-VDR/EPIRB Capsule	C1 (36-001-002A)
2	McMurdo EPIRB	G5 (82-800-001A)
3	Hydrostatic Release Bracket for C1	36-200-002B
4	Hydrostatic Release Housing for G5/E5	82-041A

The materials used in the build standard of above items was defined in the 'process tree' documents Drg.No.82-800-XXXF Iss.3 (E5/G5 EPIRB Family Tree) and Drg.No.36-001F Iss.3 (C1 S-VDR Family Tree) Technically identical items may also be supplied under Furuno, Kelvin Hughes, Sailor or Simrad badges, please see the relevant Marine Equipment Directive type examination Certificates for further details.

Inspection Summary

The items C1 capsule, C1 release bracket and G5 beacon were immersed in some 25 litres of ASTM No.1 oil for >3 hours at a temperature of approximately 20°C, as specified in IEC 60945:2002, clause 8.11. The G5 float-free release housing was immersed in the oil at the second date because the volume of oil was not sufficient for all items at once. At the conclusion of these tests the items were removed and the oil allowed to drain off.

The two beacons were then subject to an 'aliveness' test using an WS Technologies EPIRB test receiver, this measures the RF carrier frequency, data message, approximate power indication, homing signal, and will give an overall pass / fail indication. Both beacons showed the correct readings which were directly comparable with those taken immediately before the test started.

The samples were then washed off with a water and detergent solution and subject to a visual examination. I can confirm that no adverse effects were visible to the naked eye, the colours of the plastic materials appeared unchanged and the materials showed no signs of shrinking, cracking, swelling, dissolution or visible change of mechanical characteristics.

An annex of 6 pages shows photographs of the items as inspected.

IT IS CERTIFIED THAT THE INSPECTIONS DETAILED IN THIS CERTIFICATE HAVE BEEN CARRIED OUT AS SPECIFIED, WITH THE RESULTS AS SHOWN, TO THE REQUIREMENTS OF THE CONTRACT.

Signed (electronic)
P J Goddard
EMES Business Group,
System Evaluation Services
Farnborough

Date 8th December 2006

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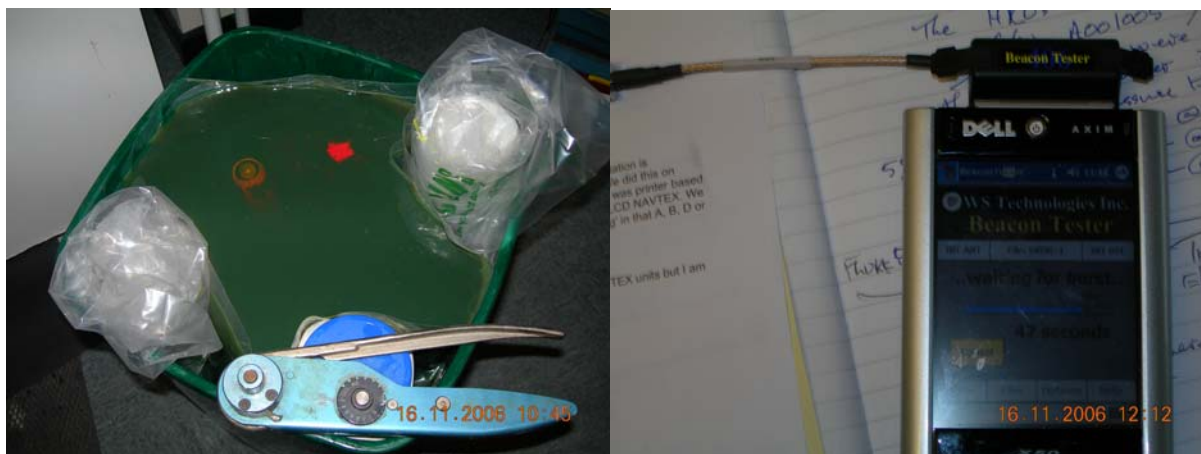
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Photographic Annex



The Oil grade and supplier and the temperature of the oil at the end of 3 hour test.



The oil was held in a flexible bin and various packing and weights were used to ensure the test items were covered. The EPIRB beacon tester used is a specialised plug-in module to a hand-held PDA.



The G5/E5 manual Bracket assembly and Lanyard (cleaned) – No degradation was noted

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The test items were initially transferred to a tray and allowed to drain.
The Self-test and performance readings were taken in this state.



Close-up of the C1 EPIRB/S-VDR beacon, before washing – no degradation was seen.

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Close-up of the G5 EPIRB beacon, before washing – no degradation was seen except slightly in the Retroreflective tape which is a pre-approved component and bears its own wheelmark.



The C1 Float-Free bracket (cover removed), no degradation was noted on any components.

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The C1 HRU and cuttable pin/cable assembly and the C1 connection box, No degradation was noted.



A representative sample of a G5/E5 coding/identity label and overall view with lanyard fitted.
 No degradation was noted.

Second test 23rd November



Oil temperature at the end of 3hour test and a sample of the C1 coding/identity label

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The G5/E5 Float-Free Housing – coding and identity label and interior showing HRU release assembly.



Close-ups of HRU assembly (partially cleaned) and pivot end of cradle lever arm



Inside and outside views of Float-Free housing cover (cleaned). No degradation was noted on any part.