


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p>UKAS TESTING 0042</p> <p>Accredited to ISO/IEC 17025:2005</p>	<p>Abtest Ltd</p> <p>Issue No: 024 Issue date: 15 June 2011</p>	
	<p>Tregwilym Industrial Estate Rogerstone Newport Wales NP10 9YA</p>	<p>Contact: Alan Breese Tel: +44 (0)1443 290020 Fax: +44 (0)1633 892770 E-Mail: enquiries@abtest.com Website: www.abtest.com</p>
<p>Testing performed at the above address only</p>		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including:</p> <p>AEROSPACE STRUCTURES, MATERIALS AND EQUIPMENT AGRICULTURAL EQUIPMENT COMPUTERS AND PERIPHERALS CONSTRUCTION PLANT, EQUIPMENT, PRODUCTS AND MATERIALS DOMESTICAL APPLIANCES ELECTRICAL/ELECTRONIC COMPONENTS, CONNECTORS AND PRODUCTS ELECTRO-MECHANICAL DEVICES HYDRAULIC EQUIPMENT AND FITTINGS MARINE EQUIPMENT MECHANICAL PRODUCTS AND PLANT MICRO-ELECTRONIC CIRCUITS AND COMPONENTS MINING COMPONENTS AND EQUIPMENT MOTOR VEHICLE COMPONENTS AND COMPONENTS OFFICE EQUIPMENT PRINTED CIRCUIT BOARDS AND ASSEMBLIES RADAR EQUIPMENT RADIO AND TV EQUIPMENT</p>	<p>ENVIRONMENTAL TESTS (non-explosive items)</p> <p>CLIMATIC Single Parameters</p> <p>HIGH TEMPERATURE Max temp: +300°C Max chamber size: 0.6 m x 0.6 m x 0.6 m</p> <p>LOW TEMPERATURE Min temp: -80°C Max chamber size: 0.4 m x 0.5 m x 0.7 m</p>	<p>BS EN 60068-2-2 : 2007 Test Bb BS EN 60068-2-2:1993 Tests Ba,Bb BS 2011:B:1977(1980) Tests Ba, Bb IEC 68-2-2:1974(1976) Tests Ba,Bb DEF STAN 00-35 Part 3 Issue 4 Test CL1 DEF STAN 07-55:1975 Test B1 MIL STD 202G :2002 Method 108A MIL-STD 202F:1980 Method 108A MIL STD 810G:2002 Method 501.5 MIL STD 810F:2000 Method 501.4 MIL-STD 810E:1989 Method 501.3 MIL-STD 1344A:1977 Method 1005.1 MIL-C 38999J 4.7.33.1 RTCA/DO-160 D / E & F Section 4</p> <p>BS EN 60068-2-1: 2007 Test Ab BS EN 60068-2-1:1993 Tests Aa, Ab BS 2011:A:1977 & 1990 Tests Aa, Ab IEC 68-2-1:1990 Test Aa, Ab DEF STAN 07-55:1975 Test B4 MIL STD 810G:2002 Method 502.5 MIL STD 810F Method 502.4</p>



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<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including: (cont'd)</p> <p>SAFETY APPLIANCE AND EQUIPMENT</p> <p>SATELLITES AND SUB-ASSEMBLIES</p> <p>SECURITY DEVICES AND ALARMS</p> <p>STRUCTURES AND COMPONENTS</p> <p>TELECOMMUNICATION EQUIPMENT</p>	<p>ENVIRONMENTAL TESTS (non-explosive items) (cont'd)</p> <p>CLIMATIC</p> <p>Single Parameters (cont'd)</p> <p>LOW TEMPERATURE (cont'd)</p> <p>TEMPERATURE CHANGE (Thermal Shock)</p> <p>Max temp: +300°C Chamber size: 0.6 m x 0.6 m x 0.6 m</p> <p>Min temp: -80°C Chamber size: 0.4 m x 0.5 m x 0.7 m</p>	<p>MIL-STD 810E:1989 Method 502.3</p> <p>MIL-C 38999J 4.7.39</p> <p>RTCA/DO-160 D / E & F, Section 4</p> <p>MIL STD 1344A:1977 Method 1002.2</p> <p>DEF STAN 00-35 Part 3 Issue 4 Test CL4</p> <p>BS EN 60068-2-14:2000 BS 2011:N:1985(1987) Tests Na, Nb, Nc</p> <p>IEC 68-2-14:1984 Tests Na, Nb, Nc</p> <p>DEF STAN 00-35 Part 3 Issue4 Test CL14</p> <p>DEF STAN 07-55:1975 Test B14</p> <p>MIL-STD 202F:1980 Method 107G</p> <p>MIL STD 810G:2008 Method 503.5</p> <p>MIL STD 810F:2000 Method 503.4</p> <p>MIL-STD 810E:1989 Method 503.3</p> <p>MIL STD 883G Methods 1010.8,1011.9</p> <p>MIL-STD 883D:1991 Methods 1010.7, 1011.9</p> <p>MIL-STD 1344A:1977 Method 1003.1</p> <p>MIL-C 38999J 4.7.4</p> <p>RTCA/DO-160 D /E & F, Section 5</p> <p>DEF STAN 00-35 Part 3, Issue 4 Test CL5</p> <p>DEF STAN 07-55:1975 Test B5</p> <p>MIL STD 202G:2002 Method 107G</p>



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<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including: (cont'd)</p> <p>As listed on Pages 1 and 2</p>	<p>ENVIRONMENTAL TESTS (non-explosive items) (cont'd)</p> <p>CLIMATIC Single Parameters (cont'd)</p> <p>LOW PRESSURE Including Pressure Change and Temperature</p> <p>Min pressure: 6 mbar</p> <p>Max chamber size: 0.7 m x 0.6 m x 0.6 m</p> <p>DUST, SAND</p> <p>Chamber size: 0.9 m x 0.9 m x 0.9 m</p> <p>ICING</p> <p>WATER</p> <p>Drip, Spray, Splash, Rain</p> <p>Plan area: 0.45 m x 0.30 m x 0.15 m</p>	<p>BS EN 60068-2-13:1999 BS 2011:M:1984 IEC 68-2-13:1983 MIL-STD 202G:2002 Method 105C MIL-STD 202F:1980 Method 105C MIL STD 810 G:2008 MIL STD 202F:2000 Method 500.4 MIL STD 810E:1989 Method 500.3 MIL-STD 883G:2006 Method 1001 MIL-STD 883F:2004 Method 1001 MIL-STD 883E:1996 Method 1001 MIL-STD 883D:1991 Method 1001 MIL-STD 1344A:1977 Method 1004.1 MIL-C 38999J 4.7.8</p> <p>BS EN 60529:1991 & 1992 DEF STAN 00-35 Part 3 Issue 4 Test CL25 DEF STAN 07-55:1975 Test D1</p> <p>RTCA/DO-160 D to F, Section 24 Cat A</p> <p>BS EN 60068-2-18:2001 IEC 60068-2-18:2000 BS 2011:R:1990 IEC 68-2-18: BS 3G100:Section 3:Sub-Section 3.11:Grade A and B DEF STAN 07-55:1975 Tests D2, D3, D4, D5 DEF STAN 00-35 Section 3 Issue 4 Tests CL 26, CL27, CL28, CL 29</p>



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<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including: (cont'd)</p> <p>As listed on Pages 1 and 2</p>	<p>ENVIRONMENTAL TESTS (non-explosive items) (cont'd)</p> <p>MISCELLANEOUS (cont'd)</p> <p>CONTACT RESISTANCE/ CONDUCTIVITY</p> <p>Min $1\mu\Omega$</p> <p>INSULATION RESISTANCE</p> <p>Max voltage: 1 kV dc Max resistance: 1 TΩ</p> <p>VOLTAGE PROOF</p> <p>Max voltage: 5 kV dc or ac 50 Hz</p> <p>FUNCTIONAL TESTS/ANCILLARY MEASUREMENTS</p> <p>DC VOLTAGE 10 μV to 12 kV</p> <p>AC VOLTAGE 10 μV to 6 kV</p> <p>DC CURRENT 10 μA to 2 kA</p> <p>AC CURRENT 10 μA to 2 kA</p>	<p>BS 5772:Part 2:1979 Tests 2a, 2b, 2f MIL-STD 202G:2002 MIL-STD 202F:1980 Methods 303, 307 MIL-STD 1344A:1977 Methods 3004.1, 3007 MIL-C 38999J 4.7.13, 4.7.24</p> <p>BS 5772:Part 2:1979 Test 3a MIL-STD 202G:2002 MIL-STD 202F:1980 Method 302 MIL-STD 1344A:1977 Method 3003.1 MIL-C 38999J 4.7.9</p> <p>BS 5772:Part 2:1979 Test 4a MIL-STD 202G:2002 MIL-STD 202F:1980 Method 301 MIL-STD 1344A:1977 Method 3001.1 MIL-C 38999J 4.7.10</p> <p>Documented In-House Procedures (as agreed with client)</p> <p>MP 001:Issue 1:1997</p> <p>MP 002:Issue 1:1997</p> <p>MP 003:Issue 1:1997</p> <p>MP 004:Issue 1:1997</p>



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including: (cont'd)</p> <p>As listed on Pages 1 and 2</p>	<p>ENVIRONMENTAL TESTS (non-explosive items) (cont'd)</p> <p>FUNCTIONAL TESTS/ANCILLARY MEASUREMENTS (cont'd)</p> <p>DC RESISTANCE 1 $\mu\Omega$ to 1 TΩ</p> <p>CAPACITANCE 10 pF to 100 mF</p> <p>INDUCTANCE 1 μH to 100 H</p> <p>FREQUENCY 1 Hz to 1.3 GHz</p> <p>LINEAR 1 μm to 200 mm</p> <p>MASS 10 mg to 120 kg</p> <p>FORCE 0.05 N to 12 kN (tensile) 0.05 N to 1.2 kN (compression)</p> <p>RUBBER HARDNESS 30 IRHD to 100 IRHD</p>	<p>MP 005:Issue 1:1997</p> <p>MP 006:Issue 1:1997</p> <p>MP 007:Issue 1:1997</p> <p>MP 008:Issue 1:1997</p> <p>MP 014:Issue 1:1997</p> <p>MP 015:Issue 1:1997</p> <p>MP 016:Issue 1:1997</p> <p>MP 019:Issue 2:2007</p>
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