# Schedule of Accreditation

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**0112**

**Accredited to ISO/IEC 17025:2017**

## Smithers MSE Limited

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**Testing performed at the above address only**

**DETAIL OF ACCREDITATION**

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | Physical Tests | |
| PAPER and BOARD | Air Permeance | BS ISO 5636-3:2013 (Bendtsen Method)<br>BS ISO 5636-5:2013 (Gurley Method) |
| | Brightness / Reflectance | BS ISO 2470-1:2016 (C/2° indoor daylight conditions)<br>BS ISO 2470-2:2008 (D65/10° outdoor daylight) |
| | Burst Strength | BS EN ISO 2758:2014<br>BS EN ISO 2759:2014 |
| | Coefficient of Friction | ASTM D4917-07 |
| | Colour | BS ISO 5631-1:2022 (C/2° indoor daylight conditions)<br>BS ISO 5631-2:2022 (D65/10° outdoor daylight) |
| | Compressive strength (short span) | BS ISO 9895:2008<br>TAPPI T826 pm-92 |
| | Edge Crush | BS EN ISO 3037:2022 |
| | Flat Crush | BS EN ISO 3035:2011 |
| | Grammage | BS EN ISO 536:2020 |
| | Grammage of Components | BS ISO 3039:2010 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | Physical Tests (cont'd) | |
| PAPER and BOARD (cont'd) | Moisture Content | BS EN ISO 287:2017 |
| | Opacity | BS ISO 2471:2008 |
| | Ring Crush | TAPPI T818 om-87<br>TAPPI T822 om-93 |
| | Roughness - Bendtsen | BS ISO 8791-2:2013 |
| | Stiffness (Static) | BS ISO 2493-1:2010<br>BS ISO 2493-2:2020<br>TAPPI T451 cm-84 |
| | Tear Strength (Internal) | BS EN ISO 1974:2012 |
| | Tensile Strength and Stretch, and Tensile Energy Absorption (TEA) | ASTM D828-22<br>BS EN ISO 1924-2:2008<br>ISO 1924-2:2008 |
| | Thickness and Bulk | BS EN ISO 534:2011 |
| | Water Absorption (Cobb method) | BS EN ISO 535:2023 |
| | Wet Strength | BS 2922:Part 1:1985(1995)<br>BS ISO 3781:2011<br>ISO 3689:1983 |
| TISSUE | Whiteness (CIE, D65 Outdoor light) | BS ISO 11475:2017 |
| | Thickness | BS EN ISO 12625-3:2014 |
| | Tensile strength, stretch and TEA | BS EN ISO 12625-4:2022 |
| | Tensile strength wet (Finch Method) | BS EN ISO 12625-5:2016 |
| | Grammage | BS EN ISO 12625-6:2016 |
| | Water Absorbency (time & capacity) | BS EN ISO 12625-8:2010 |
| FILMS & LAMINATES, and BOTTLES & CONTAINERS | Moisture Vapour Transmission Rates | ASTM F1249-20 |
| | Oxygen Transmission Rates | ASTM D3985-17<br>ASTM F1927-20<br>ASTM F1307-20 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | Physical Tests (cont'd) | |
| FLEXIBLE SHEET MATERIAL USED FOR PACKAGING | Water Vapour Transmission Rate | BS 3177:1959 (1995) |
| CONTAINERS & PACKAGINGS | Burst/Seal (via air inflation) | ASTM F1140-13 |
| | Compression Resistance | Documented In-House Method (67b Issue No 1) based on BS EN 22872:1993 |
| PLASTIC FILMS & SHEETING | Coefficient of Friction | EN ISO 8295:2004<br>ASTM D1894-14 |
| | Density | BS EN ISO 1183-1:2019 (Method A)<br>ASTM D792-20 |
| | Dimension (Length/Width) | BS 2782:Part 6:Method 632A:1993<br>ISO 4592:1992 |
| | Falling Dart Impact Resistance | BS 2782:Part 3:Method 352E:1996 (Method A)<br>ASTM D1709-16 (ae1)<br>BS EN ISO 7765-1:2004 |
| | Gravimetric thickness | BS 2782-6:Method 631A:1993<br>ISO 4591:1992 |
| | Puncture resistance | ASTM F1306-21 |
| | Tear Resistance | BS 2782:Part 3:Method 360A:1991 (1996)<br>BS EN ISO 6383-2:2004 |
| | Thickness by Mechanical Scanning | BS 2782:Part 6:Method 630A:1994<br>ISO 4593:1993 |
| | Tensile Strength, Elongation and Elastic Modulus (Sheet) | BS 2782:Part 3:Method 320A:1976 (1996) |
| | Tensile Strength, Elongation and Elastic Modulus (Films) | ASTM D882-18<br>BS EN ISO 527-1:2019 (General Principles)<br>BS EN ISO 527-3:2018<br>BS 2782-3:1977<br>Methods 326A, 326B, and 326C |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | Physical Tests (cont'd) | |
| PACKAGING AND PACKAGING SYSTEMS | Seal Strength Tests of Flexible Barrier Materials | ASTM F88/F88M-23<br>ASTM F88/F88M-21 |
| | Seal Integrity (porous materials) | ASTM F1929-23 (Method A) |
| | Seal Integrity (non-porous materials) | ASTM F3039-23 |
| | Seal Strength for peelable lids (45° method) | ASTM F2824-10 (2015) |
| | Pack integrity (external pressure bubble emission test) | ASTM D3078-02 (2013)<br>Using an automated vacuum system. |
| | Pack Integrity (internal pressure bubble emissions test) | ASTM F2096-11 |
| | Pack Integrity (leak test) | Documented in-house gas detection method (WI182, Revision 5). |
| | Container Closure Seal Integrity | BS EN ISO 8871-5:2016 (Annex D)<br>BS EN ISO 8871-5:2014 (Annex D)<br>ISO 8871-5:2005 |
| | Dye solution tightness | BS ISO 11040-4:2015 (Annex H)<br>ISO 11040-4:2015(E) |
| | General techniques of Ultraviolet-visible quantitative analysis | ASTM E169-16 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | Physical Tests (cont'd) | |
| PACKAGING AND PACKAGING MATERIALS FOR TERMINALLY STERILIZED MEDICAL DEVICES | Requirements for materials, sterile barrier systems, and packaging systems | BS EN ISO 11607-1:2020+A11 2022<br>Using test specifications listed elsewhere in this Schedule, as appropriate |
| | General Requirements and Test Methods | BS EN 868:Part 1:Annex C1, C3, Annex D (BS 6256), Annex F |
| | Sterilization wrap - Requirements and Test Methods | BS EN 868:Part 2:2017:<br>paras 4.2.1.1-7, 4.2.2.1, 4.2.2.2, 4.2.2.3-4, 4.2.2.3.6-7 |
| | Paper used for paper bags, reels and pouches as specified in EN 868-4 and EN 868-5 - Requirements and Test Methods | BS EN 868:Part 3:2017:<br>paras 4.2.2-16 |
| | Paper bags - Requirements and Test Methods | BS EN 868:Part 4:2017:<br>paras 4.2.1.1-3, 4.2.2, 4.2.3.1-3, 4.4.1-3, 4.5..1-4, 4.6.1-2 |
| | Sealable pouches and reels of porous materials and plastic film construction - Requirements and Test Methods | BS EN 868:Part 5:2018<br>paras 4.2.2.1, 4.2.2.2-5, 4.3.1-4, 4.5.1-3, 4.6.1.1-3, 4.6.2 |
| | Paper for low temperature sterilization processes - Requirements and Test Methods | BS EN 868:Part 6:2017:<br>paras 4.2.2-16 |
| | Adhesive coated paper for low temperature sterilization processes - Requirements and Test Methods | BS EN 868:Part 7:2017:<br>paras 4.3.2-19, 4.4 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| PRESSURE-SENSITIVE ADHESIVE COATED LABELS | <u>Performance requirements</u><br><br>Immersion resistance to salt water (marine immersion)<br><br>Adhesion<br><br>Weathering (resistance to light and saline solution)<br><br>Laboratory temperature cycling<br><br>Legibility<br><br>Print key effectiveness<br><br>Abrasion resistance<br><br>Evaluation of label performance on specific substrates | BS 5609:1986<br>Specification for printed pressure-sensitive, adhesive-coated labels for marine use, including requirements for label base material<br><br>Section 1 - General<br><br>Section 2 - Pressure-sensitive, adhesive-coated label base material<br><br>Section 3 - Printed pressure-sensitive, adhesive-coated labels<br><br>Appendix A to K |
| PACKAGING MATERIAL and PACKAGINGS (PAPER, BOARD, PLASTICS, etc.) | <u>Environmental Tests</u><br><br>High/Low Temperature<br><br>Range: - 20 °C to + 60 °C<br>Max chamber size:<br>2 m x 2 m x 2 m<br><br>Range: - 20 °C to + 100 °C<br>Max chamber size:<br>0.66 m x 0.74 m x 0.62 m<br><br>Range: - 40 °C to + 100 °C<br>Max chamber size:<br>0.56 m x 0.55 m x 0.53 m<br><br>Thermal Shock (Auto transfer)<br>Temp Range: - 35 °C to + 80 °C<br>Chamber size:<br>0.45 m x 0.40 m x 0.60 m<br><br>Humidity<br>Range: 20 %RH to 95 %RH<br>(Between 20 °C and 55 °C) | BS EN 60068-2-1:2007<br>BS EN 60068-2-2:2007<br>ASTM F2825-18<br><br>BS EN 60068-2-14:2009<br><br>BS EN 60068-2-30:2005<br>BS EN 60068-2-38:2009<br>BS EN 60068-2-78:2013<br>ASTM F2825-18 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | <u>Chemical Tests</u> | |
| PLASTICS MATERIALS IN CONTACT WITH FOODSTUFFS | Overall migration into vegetable oils | BS EN 1186-2:2022<br>BS EN 1186-13:2002 (Method A) |
| | Overall migration into evaporable simulants | BS EN 1186-3:2022<br>BS EN 1186-14:2002<br>BS EN 1186-15:2002 |
| | pH | BS 2924:Part 1:1983 (1993)<br>BS ISO 6588-1:2021<br>BS ISO 6588-2:2021 |
| | Chlorides and Sulphates | In-house method based on following withdrawn standards: -<br>BS 2924:Parts 3 and 4:1990 (1995)<br>ISO 9197/1:1989<br>ISO 9198:1989 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| PACKAGING FOR THE TRANSPORT OF DANGEROUS GOODS<br><br><u>UN Chapter 6.1 and Chapter 6.3 (for Division 6.2) Packagings</u><br><br>Drums:<br>Metals<br>Wood<br>Fibreboard<br>Plastics<br><br>Jerricans:<br>Metal<br>Plastics<br><br>Boxes:<br>Metal<br>Wood<br>Fibreboard<br>Plastics<br><br>Bags:<br>Plastics<br>Textile<br>Paper<br><br>Composite packaging:<br>Plastics receptacle<br>Glass, porcelain or stone<br>Receptacle<br><br><u>UN Chapter 6.5 Packagings</u><br><br>Intermediate Bulk Containers (IBCs)<br>Rigid<br>Flexible | <u>Performance Tests</u><br><br>Drop tests<br>(with preconditioning at - 18 °C (plastics), and 23 °C / 50 %RH (fibreboard), as required)<br><br>Stack tests<br>(at ambient temperature, 40 °C (plastics), and 23 °C/50 %RH (fibreboard) as required)<br><br>Leakproofness tests<br><br>Internal pressure (hydraulic) tests<br><br>Steel rod impact tests<br><br>Drop tests<br><br>Stack tests<br>Leakproofness tests<br>Internal pressure (hydraulic tests)<br>Top lift tests<br>Bottom lift tests<br>Tear tests<br>Topple tests<br>Righting tests | <u>For Chapter 6.1</u>:<br>Operational Instructions for UN Test Stations issued by VCA under the authority of DfT<br><br><u>For Chapter 6.3 (Division 6.2)</u>:<br>UN Recommendations on the Transport of Dangerous Goods (19th Edition)<br><br>Operational Instructions for UN Test Stations issued by VCA under the authority of DfT |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| PACKAGING FOR THE TRANSPORT OF DANGEROUS GOODS (cont'd) | Performance Tests (cont'd) | |
| UN Chapter 6.6 Packagings | | UN Recommendations on the Transport of Dangerous Goods (19th Edition) |
| Large Packagings<br>Rigid<br>Flexible | Drop tests<br><br>Stack tests<br><br>Top lift tests<br><br>Bottom lift tests | |
| | Conditioning for testing | |
| COMPLETE, FILLED TRANSPORT PACKAGES | Max temp: 60 °C<br>Min temp: - 40 °C<br>Humidity: 90 %rh @ 38 °C<br>Max chamber size:<br>4.0 m x 2.5 m x 3.0 m (high)<br>Laboratory conditions:<br>23 °C, 50 % RH | BS EN ISO 2233:2001<br>ASTM D4332-22<br>ASTM F2825-18<br>BS EN ISO 187:2022 |
| | Performance Tests | |
| COMPLETE, FILLED TRANSPORT PACKAGES | Stacking (static load)<br>Max load: 5500 kg | BS EN 22234:1993 (withdrawn)<br>ISO 2234:1985 (withdrawn) |
| | Vertical Impact<br>(Drop test)<br>Max height: 4.5 m<br>Max mass: 2250 kg | BS EN 22248:1993<br>ISO 2248:1985<br>ASTM D5276-92<br>ASTM D5276-98(2017)<br>ASTM D5276-19(2023)<br>ASTM D5265-23<br>ASTM D6344-04(2017) |
| | Horizontal Impact<br>(Inclined plane)<br>Max mass: 2000 kg<br>Max impact velocity: 4.7 m/s | ASTM D880-86 (Methods A, B) |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | Performance Tests (cont'd) | |
| COMPLETE, FILLED TRANSPORT PACKAGES (cont'd) | Fixed Low Frequency Vibration<br>Frequency range: 1 Hz to 6 Hz<br>Max amplitude: 25.4 mm<br>Max mass: 1000 kg | ISO 2247:1985 (withdrawn)<br>ASTM D999-08 (2023) |
| | Compression<br>Max force: 22000 kgf | BS EN 22872:1993<br>ISO 2872:1985<br>ASTM D642-20 |
| | Rolling<br>Max mass: 500 kg | BS EN 22876:1993<br>ISO 2876:1985 |
| | Water Immersion<br>Tank size:<br>0.87 m x 0.87 m x 1.15 m | ISO 4180:1980 (withdrawn) |
| | Toppling<br>Max mass: 500 kg | BS EN 28768:1993<br>ISO 8768:1986 |
| | Effects of High Altitude on Packaging Systems by Vacuum Method | ASTM D6653/D6653M-13 (2021) |
| | Sequential Tests<br>(based on above facilities)<br>Vibration/drop/stack/compression/ etc | ISTA Procedures<br>1A:2014 1B: 2014 1C: 2014<br>1D: 2014 1E: 2014 1G: 2014<br>1H: 2014<br>2A:2011 2B:2011 2C:2011<br>3A:2018 3B:2017 3E:2017<br>3F:2017 3K 2011 3L:2023<br>4AB:2009<br>6-AMAZON.COM-SIOC 2018<br>6-AMAZON.COM OverBoxing 2018<br>7D:2007 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| | Performance Tests (cont'd) | |
| COMPLETE, FILLED TRANSPORT PACKAGES (cont'd) | Sequential Tests<br>(based on above facilities)<br>Vibration/drop/stack/compression/ etc (cont'd) | Documented In-House Method<br>TM 001:Issue 4:January 2023<br>ASTM D4169-05, -08, -09,<br>ASTM D4169-14, -16, -22<br>ASTM D7386-08<br>ASTM D7386-12<br>ASTM D7386-16<br>ASTM D6179-20 |
| PACKAGING, PACKAGED ITEMS, GENERAL EQUIPMENT, ELECTRO-MECHANICAL ASSEMBLIES, NON-EXPLOSIVE STORES | Vibration<br>- Sine, random, mixed mode<br>- Ambient temperature<br>- Vertical<br><br>(Electro Magnetic)<br><br>Frequency Range: 5 Hz to 2,000 Hz<br>Max Sine Thrust: 21 kN<br>Max Random Thrust:18 kN<br><br>(Servo-hydraulic)<br><br>Frequency range: 1.0 Hz to 300 Hz<br>Max peak thrust: 10 kN<br>Max payload: 1.5 tonne<br>Max displacement: 100 mm pk-pk<br><br>Frequency range: 1.0 Hz to 300 Hz<br>Max peak thrust: 40 kN<br>Max payload: 1.5 tonne<br>Max displacement: 150 mm pk-pk<br><br>Shock<br>- Classical shock with half sine or trapezoidal pulse shapes<br>- Ambient temperature<br>- Vertical<br><br>Max item mass: 1000 kg<br>Max footprint: 1 m x 1 m<br>Severity: up to 500 'g'<br>Duration: 3 ms to 20 ms | BS EN 60068-2-6:2008<br>BS EN 60068-2-64:1995<br>ASTM D999-08 (2023)<br>ASTM D3580-22<br>ASTM D4169-05, -08, -09,<br>ASTM D4169-14, -16, -22<br>ASTM D4728-17 (2022)<br>ISTA Procs 1, 2, 3 Series, 5B, 6<br>Amazon SIOC & Over boxing, 7A-D<br><br>BS EN 60068-2-27:1993 (withdrawn)<br>DEF STAN 00-35:1997:Test M3 (withdrawn)<br>MIL-STD 202:1995: Method 213<br>MIL-STD 810F:2001<br>Method 516.5 (Procs ii & iii) (withdrawn) |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| MACHINE READABLE TRAVEL DOCUMENTS<br>Machine Readable Passports | Physical / Mechanical Tests | International Civil Aviation Organization (ICAO), Durability of Machine Readable Passports, Version 3.2 30.8.2006: |
| | Stress Methods | |
| | Conditioning stress | Section 5.1 |
| | Thermal cycling | Section 5.2 |
| | Storage temperature | Section 5.3 |
| | Operational temperature | Section 5.4 |
| | Impact stress | Section 5.5 |
| | Book bend stress (back pocket) | Section 5.6 |
| | Dynamic bend stress | Section 5.7 |
| | Torsion stress | Section 5.8 |
| | Sheet turning stress | Section 5.9 |
| | Sheet pull stress | Section 5.10 |
| | Abrasion stress | Section 5.11 |
| | Pen stress | Section 5.12 |
| | Resistance to chemicals - evaluation method | Section 5.13 |
| | Artificial daylight exposure stress | Section 5.14 |
| | X-ray stress (subcontracted) | Section 5.15 |
| | Evaluation Methods | |
| | Functional PIC evaluation | Section 6.1 |
| | Physical damage evaluation | Section 6.2 |
| | Peel Strength evaluation | Section 6.3 |
| | Colour fastness evaluation | Section 6.4 |
| | Datapage warpage evaluation | Section 6.5 |
| | Book warpage evaluation | Section 6.6 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| MACHINE READABLE TRAVEL DOCUMENTS<br>Machine Readable Passports (cont'd) | Physical / Mechanical Tests (cont'd) | International Civil Aviation Organisation (ICAO), Durability of Machine Readable Passports, Version 3.2 30.8.2006 |
| | Test Sequences | |
| | Sheet binding sequence | Section 7.3 |
| | Storage climate sequence | Section 7.4 |
| | Operational climate sequence | Section 7.5 |
| | Impact sequence | Section 7.6 |
| | Back pocket sequence | Section 7.7 |
| | Torsion fatigue sequence | Section 7.8 |
| | Delamination sequence | Section 7.9 |
| | Bending fatigue sequence | Section 7.10 |
| | Thermal cycling sequence | Section 7.11 |
| | Colour fastness sequence | Section 7.12 |
| | Resistance to chemicals sequence | Section 7.13 |
| | Pen sequence | Section 7.14 |
| | Data-page abrasion sequence | Section 7.15 |
| | X-ray sequence (subcontracted) | Section 7.16 |
| | Stress Methods | BS ISO/IEC 18745-1:2018 |
| | Conditioning stress method | Section 8.1 |
| | Thermal cycling stress method | Section 8.2 |
| | Storage temperature stress method | Section 8.3 |
| | Operational climate stress method | Section 8.4 |
| | Impact stress method | Section 8.5 |
| | Book bend stress method (back pocket) | Section 8.6 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| MACHINE READABLE TRAVEL DOCUMENTS<br>Machine Readable Passports (cont'd) | Physical / Mechanical Tests (cont'd) | |
| | Stress Methods (cont'd) | BS ISO/IEC 18745-1:2018 |
| | Dynamic bend stress method | Section 8.7 |
| | Torsion stress method | Section 8.8 |
| | Sheet turning stress method | Section 8.9 |
| | Sheet pull stress method | Section 8.10 |
| | Abrasion stress method | Section 8.11 |
| | Pen stress method | Section 8.12 |
| | Resistance to chemicals stress method | Section 8.13 |
| | Artficial daylight exposure stress method | Section 8.14 |
| | X-Ray stress method (subcontracted) | Section 8.15 |
| | Evaluation Methods | |
| | Functional PIC evaluation method | Section 9.1 |
| | Physical damage evaluation method | Section 9.2 |
| | Peel strength evaluation method | Section 9.3 |
| | Colour fastness evaluation method | Section 9.4 |
| | Datapage and cover warpage evaluation method | Section 9.5 |
| | Book warpage evaluation method | Section 9.6 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| MACHINE READABLE TRAVEL DOCUMENTS<br>Machine Readable Passports (cont'd) | Physical / Mechanical Tests (cont'd) | |
| | Test Sequences | BS ISO/IEC 18745-1:2018 |
| | Sheet binding sequence | Section 10.3 |
| | Storage climate sequence | Section 10.4 |
| | Operational climate sequence | Section 10.5 |
| | Impact sequence | Section 10.6 |
| | Back pocket sequence | Section 10.7 |
| | Torsion fatigue sequence | Section 10.8 |
| | Delamination sequence | Section 10.9 |
| | Bending fatigue sequence | Section 10.10 |
| | Thermal cycling sequence | Section 10.11 |
| | Colour fastness sequence | Section 10.12 |
| | Resistance to chemicals sequence | Section 10.13 |
| | Pen sequence | Section 10.14 |
| | Datapage abrasion sequence | Section 10.15 |
| | X-ray sequence (subcontracted) | Section 10.16 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| MACHINE READABLE TRAVEL DOCUMENTS<br>Identification (ID) Cards | Physical / Mechanical Tests (cont'd) | |
| | Test Methods | BS ISO/IEC 24789-2:2011 |
| | Xenon arc light exposure | Section 5.1 |
| | Surface abrasion | Section 5.2 |
| | ICM adhesion | Section 5.4 |
| | Plasticised vinyl storage | Section 5.5 |
| | Wear and soil test | Section 5.6 |
| | Temperature and humidity ageing | Section 5.7 |
| | Temperature shock | Section 5.8 |
| | Temperature and humidity cycling | Section 5.9 |
| | ID-1 card flexure | Section 5.10 |
| | Temperature and humidity ageing followed by peel strength testing | Section 5.11 |
| | Cross-cut test | Section 5.12 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| MACHINE READABLE TRAVEL DOCUMENTS<br>ID Cards (cont'd) | Physical / Mechanical Tests (cont'd) | |
| | Test Methods | BS ISO/IEC 10373-1:2020 |
| | Card warpage | Section 5.1 |
| | Dimensions of cards | Section 5.2 |
| | Peel strength | Section 5.3 |
| | Peel strength including the edge of the card | Section 5.4 |
| | Resistance to chemicals | Section 5.5 |
| | Card dimensional stability with temperature and humidty | Section 5.6 |
| | Adhesion or blocking | Section 5.7 |
| | Bending stiffness | Section 5.8 |
| | Dynamic bending stress | Section 5.9 |
| | Dynamic torsional stress | Section 5.10 |
| | Opacity | Section 5.11 |
| | X-rays (subcontracted) | Section 5.12 |
| | Embossing relief height of characters | Section 5.13 |
| | Resistance to heat | Section 5.14 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| MACHINE READABLE TRAVEL DOCUMENTS<br>ID Cards (cont'd) | Physical / Mechanical Tests (cont'd) | |
| | Test Methods | BS ISO/IEC 10373-1:2006 + A1:2012 |
| | Dimensions of cards | Section 5.2 |
| | Peel strength | Section 5.3 |
| | Resistance to chemicals | Section 5.4 |
| | Card dimensional stability with temperature and humidty | Section 5.5 |
| | Adhesion or blocking | Section 5.6 |
| | Bending stiffness | Section 5.7 |
| | Dynamic bending stress | Section 5.8 |
| | Dynamic torsional stress | Section 5.9 |
| | Opacity | Section 5.10 |
| | X-rays | Section 5.12 |
| | Embossing relief height of characters | Section 5.14 |
| | Resistance to heat | Section 5.15 |
| END | | |