

Sources of Test Materials

To minimize variations in test results, it is recommended test materials used for evaluating machines under test be obtained from the following sources. For the purpose of check testing, test materials will be obtained from these sources.

The suppliers listed below are neither endorsed by Standards Australia nor are their products certified to meet the specification requirements within the relevant Standard. Purchasers of these materials should seek all necessary documentation from suppliers to ensure that the purchased product meets the specifications within the Standard.

Please advise Pushpender Singh if products are no longer available.

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Standards Australia International Limited

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GPO Box 476 Sydney NSW 2001

Telephone: +61 2 9237 6112

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Email: pushpender.singh AT standards.org.au

Please note that the standards referenced in this document may have amendments issued from time to time. These are noted where they are relevant. The Standards can be purchased from <http://www.saiglobal.com>

Note that email addresses in this document are written as <name AT address> to reduce spam for the email address owners. (replace AT with @ to get the email address – no spaces)

Referenced Standards

AS/NZS 2040.1:2005

Performance of household electrical appliances - Clothes washing machines - Energy consumption and performance

Abstract

Specifies methods for determining performance characteristics, including energy consumption, of electric clothes washing machines intended for household and similar use. Sets minimum acceptable levels for some of these characteristics. Is broadly based on IEC 60456:1994 but varies considerably from that document.

Notes: Amendment 1 with revised load item masses was published on 30 April 2007. Only these items are listed for supply.

Published: 22 Dec 2005

ISBN: 0 7337 7059 2, 76 pages

AS/NZS 2442.1:1996

Performance of household electrical appliances - Rotary clothes dryers - Energy consumption and performance

Abstract

Specifies the method for determining performance characteristics, including moisture removal, maximum fabric temperature and water and energy usage. It sets out minimum acceptable values for some of these characteristics but does not specify safety requirements. Appendices include specification of the standard test load, required laboratory and equipment conditions and result recording sheets.

Published: 05 Mar 1996

ISBN: 0-7337-0312-7, 31 pages

Notes: An amendment to align load item masses with AS/NZS2040-2005 Amendment 1 is in progress. Load specifications in the published standard (up to Amendment 4) may not be available. A revision is in preparation.

AS/NZS 2007.1:2005

Performance of household electrical appliances - Dishwashers - Energy consumption and performance

Abstract

Specifies methods for determining performance characteristics, including energy consumption, of electric dishwashers intended for household and similar use. Sets minimum acceptable levels for some of these characteristics. It is based on the committee draft revision of IEC 60436:2003 but has some variations to that document (mainly soils).

Published: 22 Dec 2005

ISBN: 0-7337-7061-4, 72 pages

AS/NZS 4474.1:2007 Performance of household electrical appliances - Refrigerating appliances - Energy consumption and performance

Abstract

Specifies the method for determining performance characteristics, including pull down, automatic ice making capacity, operating temperature performance and rate of energy consumption. Sets out minimum acceptable values for some of these characteristics but does not specify safety requirements. Appendices include specification of the preparation of a machine prior to testing, required laboratory and test equipment conditions and results recording sheets.

Notes: A revision was published in August 2007. This includes new intermediate ISO pack sizes.

Published: 15 August 2007

ISBN: 0 7337 8298 1, 160 pages

Sources of Test Materials

Dishwasher Detergent

Material	Dishwasher detergent (AS/NZS)
Reference	AS/NZS 2007.1 (Clause A8.1)
Source 1:	Environmental Standards Ltd P.O. Box 2034 South Dunedin New Zealand Ph: +64 27 6459329 Contact: Graham Henderson BSc(Hons), Lab manager Email: envirostandards AT xnet.co.nz
Source 2:	Advance Chemicals: Address: 4-8 Malton Court, (P.O. Box 164) Altona, VIC 3018 AUSTRALIA Telephone: +61 3 9398 444, +61 3 9315 9633 Fax: +61 3 9398 5278 E-mail: sales AT advancechemicals.com.au Contact: Joanne Philippe (AC) Item code: PB1410 (200g/500g/1kg)
Last Updated	11 April 2008
Notes	As specified in IEC 60436:1981, (not A1 1994). IEC Detergent C IEC60436-2003 is under consideration. Source 1 replaces Chemsearch, University of Otago, which has ceased.

Dishwasher Rinse Agent

Material	Dishwasher Rinse Agent
Reference	AS/NZS 2007.1 (Clause A9.1)
Source 1:	Environmental Standards Ltd P.O. Box 2034 South Dunedin New Zealand Ph: +64 27 6459329 Contact: Graham Henderson BSc(Hons), Lab manager Email: envirostandards AT xnet.co.nz
Source 2:	Advance Chemicals: Address: 4-8 Malton Court, (P.O. Box 164) Altona, VIC 3018 AUSTRALIA Telephone: +61 3 9398 444, +61 3 9315 9633 Fax: +61 3 9398 5278 E-mail: sales AT advancechemicals.com.au Contact: Joanne Philippe (AC) Item code: LS1411 (1 litre)
Last Updated	27 November 2006
Notes	Neutral rinse agent as specified in IEC 60436:1981.

Dishwasher - AS/NZS Cutlery

Material	Paul Wirth New Look cutlery
Reference	AS/NZS 2007.1 (A12.2.3)
Source	James Fine Tableware 153 Montague St South Melbourne Vic 3205 Tel 03 96865999 Mr Graeme Stewart
Last Updated	
Notes	

Dishwasher – AS/NZS Load

At this stage there is no supplier of the AS/NZS load. It is anticipated that the AS/NZS load will be deleted from a future revision of the standard.

Dishwasher - IEC Load

Material	IEC 60436 test load without serving pieces
Reference	AS/NZS 2007.1 (A12.3)
Source	Wfk Testgewebe GmbH Christenfeld 10, D - 41369 Brüggen, Deutschland (Germany) Tel.: +49-2157-871977, Fax: +49-2157-90657, info AT testgewebe.de or sales AT testgewebe.de Contact: Mrs. Emine Demir Websites: www.testgewebe.de and www.testmaterials.com
Last Updated	April 2007
Notes	Contact supplier or view the website for load item codes and prices. The standard specifies relevant item codes.

Dishwasher – Spinach (soil)

Material	Energy consumption and performance— Test material – Spinach.
Description	Betuws Roem Leaf unfrozen Spinach 330 ml
Reference	AS/NZS 2007.1 (Clause A10)
Source 1	Adams International foods (Melbourne) 15 Daniels Crt, Carrum Downs, Tel: (03) 87963133, Fax: (03) 87963144 Contact: Nick
Last Updated	9 April 2010
Notes	

Clothes Washers – Non-Drum Type Detergent

Material	Non-Drum Type Detergent.
Standards Reference	AS/NZS 2040.1 (Clause A8)
Source:	Advance Chemicals: Address: 4-8 Malton Court, (P.O. Box 164) Altona, VIC 3018 AUSTRALIA Telephone: +61 3 9398 444, +61 3 9315 9633 Fax: +61 3 9398 5278 E-mail: sales AT advancechemicals.com.au Contact: Joanne Philippe (AC) Item code: PB1412 (5kg)
Last Updated	27 November 2006
Notes	Non-drum detergent is likely to be deleted in a future revision of the standard. Detergent should be mixed before use.

Clothes Washers - Drum Type Detergent

Material	IEC Type B component of Drum Type Detergent.
Standards Reference	AS/NZS 2040.1 (Clause A8)
Source 1:	<p>Advance Chemicals: Address: 4-8 Malton Court, (P.O. Box 164) Altona, VIC 3018 AUSTRALIA</p> <p>Telephone: +61 3 9398 444, +61 3 9315 9633 Fax: +61 3 9398 5278 E-mail: sales AT advancechemicals.com.au Contact: Joanne Philippe (AC) Item code: PB1413 (5kg)</p>
Source 2:	<p>Wfk Testgewebe GmbH Christenfeld 10, D - 41369 Brüggen, Deutschland (Germany) Tel.: +49-2157-871977, Fax: +49-2157-90657, info AT testgewebe.de or sales AT testgewebe.de Contact: Mrs. Emine Demir Websites: www.testgewebe.de and www.testmaterials.com</p>
Source 2 item code	Code: 88020, IEC 60456 * Reference Base Detergent Type B (with phosphate), Unit Size: 5 kg
Source 3:	<p>Center for Testmaterials Address: Stoomloggerweg 11 3133 KT Vlaardingen the Netherlands</p> <p>Telephone: (31) (0)10-4603955 Fax: (31) (0)10-4340236 e-mail cftbv AT wxs.nl Web: http://www.cftbv.nl</p>
Last Updated	26 November 2008
Notes	This is the IEC 60456 Type B component of the drum type detergent. <i>It is necessary to add sodium perborate tetrahydrate (5% by mass) to complete the mixture prior to testing.</i> Note that this is different to IEC Type A* specified in IEC60456-2003.

Clothes Washer - Load to AS/NZS2040.1 (Amendment 1, 2007)

Item	Nominal Bone Dry Mass (kg)	Description (size cm)
Sheets	0.73	Cotton sheeting, White 180 × 240, Flat, 170 gsm material
Bath towels	0.33	Cotton terry, White 60 × 120, Rectangular
Tablecloths	0.24	Cotton sheeting, White 117 × 117, 170 gsm material
Shirts	0.20	Polyester/cotton, White size 41, Long sleeve men's
T-shirts	0.15	Cotton interlock, White 115 (3XL), Raglan sleeve
Pillow cases	0.13	Cotton sheeting, White 50 × 75, 170 gsm material
Undershorts	0.09	Cotton interlock, White Waist 95–100
Wash Cloths	0.06	Cotton terry White 33 × 33
Handkerchiefs	0.014	Cotton White 40 × 43
Notes		Amendment 1 to AS/NZS2040.1-2005 was published on 30 April 2007. Sizes and materials in the published standard were adjusted to ensure that the makeup Table C2 gives a total test load mass that is close to that required. Amendment 2, which will allow the IEC load to be used as an alternative is currently open for comment (DR07223)

Material	Load items to AS/NZS2040.1-2005 (Amendment 1, 2007) – see above table
Reference	AS/NZS 2040.1 (Clause A12 and Table C1)
Source:	D M KOZAN Address: 107/5 Wulumay Close, Rozelle, NSW 2039, Australia Telephone: +61 2 9555 5590 Fax: +61 2 9555 5590 (same) E-mail: dkozan AT bigpond.com Contact: Dilek Kozan
Source supplier codes	Sheet (SH01), Bath Towel (BT01), Table Cloth (TC01), T Shirt (TS01), Business Shirt (BS01), Pillow Case (PC01), Undershirt (US01), Face Washers (FW01) and Handkerchiefs (HK01).
Last Updated	27 April 2007
Notes	Load item sizes and masses have been altered in Amendment 1.

Clothes Washers - Anti Sudsing Agent

Material	Silicone based Anti Sudsing Agent
Reference	AS/NZ 2040.1 (Clause A9)
Source:	Advance Chemicals: Address: 4-8 Malton Court, (P.O. Box 164) Altona, VIC 3018 AUSTRALIA Telephone: +61 3 9398 444, +61 3 9315 9633 Fax: +61 3 9398 5278 E-mail: sales AT advancechemicals.com.au Contact: Joanne Philippe (AC) Item code: LN1414 (1 litre)
Last Updated	27 November 2006
Notes	Anti Sudsing Agent is an optional inclusion in a clothes washer test where over sudsing is a problem. It is an emulsion with a nominal 10 % silicone oil and the balance of water and non ionic emulsifiers. Silicone Polydiorganosiloxane = 10.0 % is recommended.

Clothes Washer - Soil Removal Swatches

Material	AS-9 Soiled Swatches
Reference	AS/NZS 2040.1 (Clause A10)
Source	Center for Testmaterials Address: Stoomloggerweg 11 3133 KT Vlaardingen the Netherlands Telephone: (31) (0)10-4603955 Fax: (31) (0)10-4340236 e-mail cftbv AT wxs.nl Web: http://www.cftbv.nl
Last Updated	20 September 2001
Notes	Mandatory for performance tests to AS/NZS2040 for energy labelling. For registration and check tests, the AS-9 batch must be authorised by Standards Australia. See http://www.energyrating.gov.au/supplementary.html for details of authorised batches and calibration curves.

Clothes Washer - Severity of Wash Swatches

Material	Cosmo embroidery fabric, Article No. 1100-33 or material having identical properties.
Reference	AS/NZS 2040.1 (Clause A11)
Source 1	Tom Sugihara Fuji Industries Co., Ltd. 9F Meikai Bldg., 32 Akashi-machi Chou-ku, Kobe 650-0037, Japan Ph; +81-78-331-2521 Fax:+81-78-332-1485 Email: t.sugihara AT ficjpn.co.jp Contact: Tokuzou (Tom) Sugihara Web site: http://www.ficjp.com
Source 2	JK Trading Co., Ltd 4-6-3 shimoyamate -dori chuo-ku, Kobe, Japan Ph: +81-78-333-8132, +81-78-333-8131 Contact: Hiro Nakayama Email: nakayama@jktrading.jp Web site: http://www.jktrading.jp
Last Updated	11 February 2011
Notes	Recently 1100-11 type material has been supplied as a replacement for 1100-33. Sanko advise the only difference is the colour, 1100-11 is white. Mandatory for performance tests to AS/NZS2040 for energy labelling.

Clothes Washer - Whiteness Swatches

Material	White Indian Head cotton (pure finish), or from a material with properties identical thereto.
Reference	AS/NZS 2040.1-2005 (Clause K4.2)
Source	Indian Head Mill Incorporated Address: 1430 Broadway New York USA
Last Updated	
Notes	The whiteness retention test is <u>not</u> a mandatory performance test in AS/NZS2040 for energy labelling.

Clothes Washer - Black Clay

Material	Bandy Black research clay, Stockpile No. 1 or a clay with properties identical thereto.
Reference	AS/NZS 2040.1 (Clause K4.3)
Source	HC Spinks Clay Co. Address: PO Box 151 Fort Thomas Kentucky USA
Last Updated	
Background	The use of bandy black clay is <u>not</u> a mandatory performance test in AS/NZS2040 for energy labelling.

Refrigerator – Freezer Test Packs (made up)

Title	ISO Refrigerator Test Packages
Description	Made up freezer test packs for refrigerator testing
Reference	AS/NZS 4474.1 (Clause B6.1)
Source 1	<p>University of New South Wales Address: School of Mechanical & Manufacturing Engineering Sydney Australia 2052 Tel: +61 2 9385 4101 Fax: +61 2 9663 1222 E-mail: mechlab AT unsw.edu.au Contact: Mike Fynch (UNSW)</p>
Source 2	<p>MADI s.n.c. di Fusari M. & D. Address: Via delle Industrie 2/4 26838 TAVAZZANO CON VILLAVESCO LO ITALY Tel: +39 0371 477880 Fax: +39 0371 477073 E-mail: madisnc AT madisnc.com Website: www.madisnc.com Contact: Massimo Fusari or Diego Fusari (MADI snc)</p>
Last Updated	16 March 2008
Notes (MADI S.n.c).	<p>The Company is ISO 9001-2000 certified by DNV (Det Norske Veritas) for the supply of ISO test packages. While in the past the sensor inserted into the Test Packages "M" could not be positioned perfectly in the geometrical centre of the pack, since January 2006 they state that they have adopted a new solution to guarantee the correct location of the temperature sensor (plastic tubing 4.5 mm long into which they insert the sensor so that it is positioned at the centre at a depth of 5.0 mm from the external surface. A mould for freezing the packs into the correct shape is available and is recommended.</p>
Notes	<p>The 2007 edition of the standard contains intermediate ISO test pack sizes which have been added to align with ISO15502:2005 (which has been republished as IEC62552:2007). The new test pack sizes are 50 × 50 × 100 mm (250g) and 25 × 100 × 200 mm (500g). Test packs should remain frozen when not in use. A mould is recommended to ensure that the packs are frozen into the correct shape.</p>