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Textiles — Domestic washing and drying procedures for textile testing

AMENDMENT 1

*Textiles — Méthodes de lavage et de séchage domestiques en vue des
essais des textiles*

AMENDEMENT 1

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to ISO 6330:2000 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 2, *Cleansing, finishing and water resistance tests*.

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Textiles — Domestic washing and drying procedures for textile testing

AMENDMENT 1

Page 1

Subclause 1.1

Replace entire wording with the following:

This International Standard specifies standardized washing and drying procedures for textile testing. The procedures are applicable to textile fabrics, garments and other made-up textile articles which are subjected to appropriate combinations of domestic washing and drying procedures.

Subclause 1.2

Replace the entire wording with the following:

Provision is made for:

- a) ten different washing procedures based on the use of a horizontal drum, front loading type machine (type A washer).

This amendment allows for the use of a replacement of the horizontal drum machine and the machine specified in previous additions of this International Standard. The original machine is no longer manufactured.

Limited trials carried out indicate that tested fibre and fabric types in both machines give similar results under the same wash conditions.

- b) eleven different washing procedures based on the use of top loading agitator type of machine (type B washer).

The results obtained in the two types of machine, horizontal and vertical, may not be the same.

Clause 2 Normative references

Remove dates from normative references:

ISO 3758, *Textiles — Care labelling code using symbols*

ISO 6059, *Water quality — Determination of the sum of calcium and magnesium — EDTA titrimetric method*

Clause 4 Reagents

Replace the entire text existant in Clause 4 with:

4.1 Reference detergents

4.1.1 Reference detergent 1

Reference detergent 1 is a non-phosphate detergent without brightener and without enzymes. (Other designation (AATCC 1993 reference detergent WOB.)

NOTE 1 Reference detergent 1 can be used only in top loading type B washers.

NOTE 2 The nominal composition of reference detergent 1 is given in Annex A.

4.1.2 Reference detergent 2

Reference detergent 2 is a non-phosphate detergent without optical brightener and without enzymes. (Other designation ECE reference detergent 98.)

NOTE 1 Reference detergent 2 can be used in both machine type A and type B.

NOTE 2 The nominal composition of reference detergent 2 is given in Annex B.

NOTE 3 For distribution and mixing see Annex E.

4.1.3 Reference detergent 3

Reference detergent 3 is a non-phosphate detergent with optical brightener but without enzymes. (Earlier incorrect designation IEC reference detergent A.)

NOTE 1 Reference detergent 3 can be used in both machine type A and type B.

NOTE 2 The nominal composition of reference detergent 3 is given in Annex C.

NOTE 3 For distribution and mixing see Annex E.

4.1.4 Reference detergent 4

Reference detergent 4 is a non-phosphate detergent with optical brightener and with enzymes. (Other designation IEC reference detergent A*.)

NOTE 1 Reference detergent 4 can be used in both machine type A and type B.

NOTE 2 The nominal composition of reference detergent 4 is given in Annex D.

NOTE 3 For distribution and mixing see Annex E.

4.2 Water of hardness not exceeding 0,002 % (20 ppm), expressed as calcium carbonate, when determined in accordance with ISO 6059.

Subclause 5.1.1 Type A washer — Front loading, horizontal drum type

Replace the entire text with the following:

5.1.1 Type A washer — Front loading, horizontal drum type

NOTE 1 Suitable machines are available commercially. Names of such machines can be obtained from national standard bodies. Other machines can be used if it has been established that they give equivalent results.

Type	Front loading horizontal rotating machine		Type A1 Specification for older machines no longer in production but still in use	Type A2 Specification for the new replacement machine	
Inner drum	Diameter		(515 ± 5) mm	(520 ± 1) mm	
	Depth		(335 ± 5) mm	(315 ± 1) mm	
	Volume		65 l	61 l	
	Lifting vanes	Number		3	3
		Height		(50 ± 5) mm	(50 ± 1) mm
		Length		Extended the depth of the inner drum	Extended the depth of the inner drum
		Spacing		120°	120°
Outer drum	Diameter		(575 ± 5) mm	(554 ± 1) mm	
Drum speed	Wash	With load and water	(52 ± 1) rpm [(0,866 ± 0,016) s ⁻¹]	(52 ± 1) rpm [(0,866 ± 0,016) s ⁻¹]	
	Hydroextraction (spin)		(500 ± 20) rpm [(8,333 ± 0,333) s ⁻¹]	(500 ± 20) rpm [(8,333 ± 0,333) s ⁻¹]	
Heating system	Heating power		(5,4 ± 0,108) kW	(5,4 ± 0,108) kW	
	Thermostat		Controlled	Controlled	
		Accuracy at switch off temperature		± 1 °C	± 1 °C
		Switch on temperature		≤ 4 °C below switch-off temperature	≤ 4 °C below switch-off temperature

Rotating action	Normal ON	Tolerance refer to timer intervals	(12 ± 0,1) s	(12 ± 0,1) s
	Normal OFF		(3 ± 0,1) s	(3 ± 0,1) s
	Gentle ON	Tolerance refer to timer intervals	(3 ± 0,1) s	(3 ± 0,1) s
	Gentle OFF		(12 ± 0,1) s	(12 ± 0,1) s
Water system	Cold water supply		(16 ± 2) l/min	(20 ± 2) l/min
			(20 ± 5) °C	(20 ± 5) °C
	Level sensing	Step size	≤ 3 mm	≤ 3 mm
		Repeatability	± 5 mm (± 1 litre)	± 5 mm (± 1 litre)
	Drain system	Drain valve	> 30 l/min	> 30 l/min

NOTE 2 In tropical countries the water temperature (20 ± 5) °C should be regarded as a minimum temperature. When the measurement is carried out with the water temperature different from these limits, the supply water temperature should be stated in the measurement report.

Page 5

Subclause 7.3

Change text in parentheses in line four from: (4.1.1 to 4.1.3) to (4.1.1 to 4.1.4).

Page 6

Clause 8.5, Procedure E — Tumble dry

In paragraph four, line 2 change "Annex C" to "Annex F"; line 3 change 65 °C to 65 %.

Page 7

Table 1, footnote ^b

Replace wording to read:

^b All filling temperatures for wash and rinse are (20 ± 5) °C (except in tropical countries see 5.1.1 Note 2). Main wash temperature refers to heating switch off temperature.

Table 1, footnote ^h

Replace wording to read:

^h Heat to 40 °C, hold temperature for 15 min with agitation before heating to wash temperature.

Page 9

Annex A
(normative)

Replace entire text with:

**Nominal percentage composition for non-phosphate reference
detergent 1**

(AATCC 1993 reference detergent WOB)

Composition	Reference detergent 1 %
Linear sodium alkylbenzene sulfonate sodium salt ^a	18,00
Sodium aluminosilicate solids	25,00
Sodium carbonate	18,00
Sodium silicate solids ^b	0,50
Sodium sulfate	22,13
Polyethylene glycol ^c	2,76
Sodium polyacrylate	3,50
Silicone, suds suppressor	0,04
Moisture	10,00
Miscellaneous (unreacted in surfactant stocks)	0,07
Total	100,0

^a C11.8LAS, introduced as Stepan's Calsoft L-50-12.^b $\text{SiO}_2:\text{Na}_2\text{O} = 1,6:1$.^c 2 % introduced via base granulates and 0,76 % introduced via suds suppressor admixture.

Annex B
(normative)

Replace entire text with:

**Nominal percentage composition for non-phosphate reference
detergent 2**

(ECE reference detergent 98)

Composition	Reference detergent 2 %
Linear sodium alkylbenzene sulfonate (mean length of alkane chain C_{11-5})	7,5
Ethyloxyated fatty alcohol C_{12-18} (7EO)	4,0
Sodium soap (chain length C_{12-17} 46 %; C_{18-20} 54 %)	2,8
Foam inhibitor (DC-42485)	5,0
Sodium aluminium silicate (zeolite 4A)	25,0
Sodium carbonate	9,1
Sodium salt of a copolymer from acrylic and maleic acid	4,0
Sodium silicate ($SiO_2:Na_2O = 3,3:1$)	2,6
Carboxymethylcellulose (CMC)	1,0
Diethylene triamine penta(methylene phosphoric acid)	0,6
Sodium sulfate	6,0
Water	9,4
Tetra-acetythylenediamine (TAED) (100 % active)	3,0 (as separate addition)
Sodium perborate tetrahydrate	20,0 (as separate addition)
Total	100,0

Annex C
(normative)

Relabel Annex C to become Annex F; renumber clauses C.1 to C.4 as F.1 to F.4.

Insert the following as new Annex C:

Annex C
(normative)

**Nominal percentage composition for non-phosphate reference
detergent 3**

(Earlier incorrect designation IEC reference detergent A)

Composition	Reference detergent 3 %
Linear sodium alkylbenzene sulfonate (mean length of alkane chain C ₁₁₋₅)	7,5
Ethyoxylated fatty alcohol C ₁₂₋₁₈ (7EO)	4,0
Sodium soap (chain length C ₁₂₋₁₇ 46 %; C ₁₈₋₂₀ 54 %)	2,8
Foam inhibitor concentrate 8 % on inorganic carrier	5,0
Sodium aluminium silicate (zeolite 4 A)	25,0
Sodium carbonate	9,1
Sodium salt of a copolymer from acrylic and maleic acid	4,0
Sodium silicate (SiO ₂ :Na ₂ O = 3,3:1)	2,6
Carboxymethylcellulose	1,0
Diethylene triaminepenta(methylene phosphoric acid)	0,6
Optical whitener for cotton (stilbene type)	0,2
Sodium sulfate (as accompanying substance or added)	5,8
Protease (Savinase 8,0)	–
Water	9,4
Sodium perborate tetrahydrate	20,0 (as separate addition)
Tetraacetythylenediamine	3,0 (as separate addition)
Total	100,0