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The following interests are represented on Committee TX/15:
Australian Chamber of Commerce and Industry
Australian Linen Services Executive
Australian Wool Research and Promotion Organisation
Australian Wool Testing Authority
Council of Textile and Fashion Industries of Australia
Federation of Sterilising Research and Advisory Councils of Australia
Hospital Laundry Managers Association of Australia
N.S.W. Health Department
Textile Distributors Association
Textile Rental Laundry Association
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Australian Standard™

Textiles for health care facilities and institutions—Medical sheepskins

Part 1: Product specification and testing

First published as AS 4480.1—1998.

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PREFACE

This Standard was prepared by the Standards Australia Committee TX/15, Textiles for Health Care Facilities and Institutions.

The objective of this Standard is to provide manufacturers and suppliers of medical sheepskins with a set of requirements for product specification and testing.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.
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<td>18</td>
</tr>
</tbody>
</table>
STANDARDS AUSTRALIA

Australian Standard
Textiles for health care facilities and institutions—
Medical sheepskins

Part 1: Product specification and testing

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for woolskins (tanned sheepskins and lambskins) for health care, medical and institutional uses. These are used to minimize the incidence, severity and duration of pressure ulcers by decreasing friction, pressure and humidity at the points of contact between a patient and the support surface (e.g. bed or chair).

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS 4146 Laundry practice
IWS TM 5 Method of test for determining colourfastness to light
IWS TM 165 Method for assessing colourfastness to rubbing of textile materials and dyed sheepskins
IWS TM 174 Method for assessing the colourfastness of textile materials in a damp alkaline environment
IWS TM 175 Colourfastness in an acidic environment
IWS TM 250 Colourfastness to hand washing
SLP 2 (1965) Sampling
SLP 18 (1965) Shrinkage temperature measurement

1.3 DEFINITIONS For the purposes of this Standard, the following definitions apply.

1.3.1 Crimp—the waves, folds and corrugations of wool fibres within a wool staple.

1.3.2 Fatliquors—emulsified oils applied to leather to soften the leather’s fibrous structure and prevent the fibres sticking together on drying after washing.

1.3.3 Flesh—the muscle tissue and fat adhering to the inner layer of a freshly flayed skin which can be removed by a fleshing machine.

1.3.4 Hi temp medical skins—tanned skins which can be washed and disinfected in an industrial washing machine at temperatures not exceeding 80°C and dried at temperatures not exceeding 60°C.

NOTE: Restrictions on additives to the wash formulae. (See Table A9.4).
1.3.5 Initial wool finishing stage—the processing stage after dry cleaning and prior to the final wet processing which is the stage in the process where the wool is combed, ironed and clipped to the final finished length (see Clause 2.7).

1.3.6 Kemp—coarse and medullated wool fibres, often found in the bristly areas of sheep and lambs.

1.3.7 Leather—skin with its original fibre structure more or less intact, tanned so as to be imputrescible.

1.3.8 Medical sheepskin—lambskin or sheepskin tanned and shorn to a uniform wool pile height for use as a bed or chair underlay to distribute and relieve pressure so as to prevent the onset of pressure ulcers (decubitus ulcers or bed sores).

1.3.9 Pilling Small balls/tufts of wool which form on woolakins above the main wool pile due to mechanical action and washing of the wool pile—the tufts may be attached to the wool tips.

1.3.10 Regtemp medical skins—tanned sheepskins which can be washed and disinfected in an industrial washing machine at temperatures not exceeding 60°C and dried at temperatures not exceeding 60°C.

NOTE: Restrictions on additives to wash formula (Table A9.3).

1.3.11 Seed scar—healed damaged skin tissue formed after a grass seed has penetrated the skin.

1.3.12 Tanning—the processing of perishable raw hides and skins by the use of tanning materials into the permanent and imputrescible form of leather.

NOTE: A rationale is provided in Appendix A to clarify terms and procedures which have special significance when used in the processing of sheepskins.

1.3.13 Urine resistant (UR)—a type of medical sheepskin which has had additional treatment to enhance the resistance to urine provided by other tanning agents.

1.3.14 Wool pile height—the vertical distance between the leather grain surface and the shorn wool tips, measured at right angles to the leather grain.

1.4 DESIGNATION OF SHEEPSKINS Each skin’s designation is comprised of components as indicated in Tables 1.4(A) and (B).

### TABLE 1.4(A)
**TYPE DESIGNATION OF MEDICAL SHEEPSKIN**

<table>
<thead>
<tr>
<th>Type</th>
<th>Regtemp</th>
<th>Hitemp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>R1</td>
<td>H1</td>
</tr>
<tr>
<td>Urine resistant</td>
<td>R2</td>
<td>H2</td>
</tr>
</tbody>
</table>

### TABLE 1.4(B)
**SIZE DESIGNATION OF MEDICAL SHEEPSKIN**

<table>
<thead>
<tr>
<th>Code</th>
<th>Minimum length cm</th>
<th>Minimum width cm</th>
<th>Area dm²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Minimum</td>
</tr>
<tr>
<td>S (small)</td>
<td>83</td>
<td>56</td>
<td>46</td>
</tr>
<tr>
<td>M (medium)</td>
<td>87</td>
<td>60</td>
<td>55</td>
</tr>
<tr>
<td>L (large)</td>
<td>92</td>
<td>63</td>
<td>64</td>
</tr>
<tr>
<td>XL (extra large)</td>
<td>100</td>
<td>70</td>
<td>73</td>
</tr>
</tbody>
</table>

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1.5 TEST SAMPLES
1.5.1 Selection
1.5.1.1 Samples for shrinkage temperature test When testing for compliance with this Standard, a neck cutting from three separate skins shall be supplied and marked and identified (as in Appendix B) for determination of the mean shrinkage temperature value \( T_t \). The testing authority will take two samples from each cutting of approximately 28 x 4 mm, one parallel and perpendicular to the backbone line of the sample skin.

1.5.1.2 Samples for colourfastness Samples shall be taken within mirror image positions on either side of the backbone line of the test skin, as shown in Appendix B, and tested as per Table 2.12. The sample size shall be as required by the test.

1.5.2 Identification The samples shall be marked on the flesh side of the skin with a label durable to water, which includes the information required by Appendix C.

1.5.3 Accompanying information The following information shall accompany each test sample:

(a) Supplier’s name and identification code, and manufacturer’s identifier.
(b) Size code in accordance with Table 1.4(B).
(c) Wool-pile height (refer to Clause 2.7).
(d) Designation code as per Table 1.4(A).

1.6 MANUFACTURER’S LABELLING The following information shall be shown on the flesh side of each skin on a label which complies with one of the examples given in Figure C1. The label shall be permanent and durable to liquids. The label shall remain legible for the life of the product. The following information shall appear on the label:

(a) Manufacturer’s identification code.
(b) Skin size in accordance with Table 1.4(B).
(c) Whether the product has been specially treated for increased urine resistance (by marking it ‘UR’).
(d) The skin designation as per Table 1.4(A).
(e) Reference to this Australian Standard, i.e. AS 4480.1 if compliance is being claimed.

NOTE: Manufacturers making a statement of compliance with this Australian Standard on a product, packaging or promotional material related to that product are advised to ensure that such a compliance is capable of being verified.

1.7 SUPPLIER’S LABEL The supplier’s label shall comply to Appendix C.
SECTION 2 MANUFACTURING REQUIREMENTS

2.1 GENERAL The product shall be a tanned sheepskin or lambskin, well trimmed with the pre-washed finish (see Paragraph A1).

2.2 WOOL The wool pile shall be homogeneous and of uniform length, and density with a well-defined staple and crimp, straight to light curl in appearance, free from pilling and from kemp fibre and vegetable matter, with belly wool density similar to the fleece. The wool shall not be felted.

2.3 LEATHER The leather shall be free from excessive natural fat and grease, clean-fleshed (but not necessarily buffed to remove all flesh) and free of faults such as large holes and cuts (no more than two holes per skin and hole diameter no greater than 5 mm). Seed scar is permissible but seed is not. The leather shall be symmetrical with respect to the backbone line of the skin. There shall be no separation of grain and corium (double hiding).

The leather may be further processed to give increased urine resistance and labelled accordingly. The leather shall not give off any pungent or rancid odour.

2.4 DIMENSIONS The pre-washed and pre-shrunk skin (see Paragraph A1) shall be of natural shape and greater than or equal to the dimensions in Table 1.4(B).

2.5 WOOL COLOUR FOR AUSTRALIAN INSTITUTIONAL USE Wool colour for Australian institutional use shall be as follows:

(a) Regtemp—Medical Blue (approximated by Pantone Matching System (PMS) 540.
(b) Hitemp—Medical Green (approximated by PMS 562).

2.6 WOOL FIBRE DIAMETER The mean wool fibre diameter shall be 26 to 34 μm in the mid-side position (approximated to a wool count of 50 s–58 s) e.g. measured by a recognized procedure, e.g. CSIRO Sirolan-Laserscan.

2.7 WOOL PILE HEIGHT

2.7.1 Initial stage In order to achieve the specified wool pile height in the finished skin (see Clause 2.7.2) the wool pile shall be clipped to no less than 30 mm from the top surface of the skin. Refer to Paragraph A1.

2.7.2 Final stage The wool pile height shall be a minimum of 25 mm in the final finished state. Refer to Paragraph A1.

2.7.3 For medical accessories When a skin is to be cut up for use as other medical accessories, elbow and heel pads and the like, the wool pile height shall be a minimum of 20 mm for the final finished state.

2.8 SOFTNESS/DRAPE Initially, and after five standard wash/dry cycles appropriate to the product, the dry product shall hang with sides parallel when suspended (lengthwise along the backbone line, or widthwise across the centre-line perpendicular to the backbone) on a round bar of 19 mm diameter (see Paragraph A7).

2.9 FLATNESS At all times, the product should lie flat on a horizontal surface with minimal curling around the edges.

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2.10 **DEGREE OF TANNAGE** The degree of tannage is measured by the hydrothermal shrinkage temperature ($T_s$) of the sheepskin or lambskin leather in water. The leather shall be fully finished by the tannery and should be tested within one month of completion of wet processing. Prior to the measurement of $T_s$, the leather shall be rehydrated (wetted) in accordance with SLP 18 (refer to Clause A8) with the exception that the immersion period of one hour be increased to 18–24 h.

The end use of the product shall determine the degree of tannage required as follows:

(a) **Regtemp** — $T_s$ minimum 100°C (Paragraph A8).

(b) **Hitemp** — $T_s$ minimum 110°C (Paragraph A8).

2.11 **MAINTENANCE OF SHRINKAGE TEMPERATURE** After five standard wash and dry cycles of a whole skin at the standard wash temperature of the designated skin, the shrinkage temperature shall not decrease by more than 5°C.

2.12 **COLOURFASTNESS** The colourfastness of the Regtemp and Hitemp skins shall comply with each of the colourfastness tests described in the following Table:

<table>
<thead>
<tr>
<th>Property</th>
<th>Substrate</th>
<th>IWS test method</th>
<th>Test</th>
<th>Pass level Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing</td>
<td>Wool</td>
<td>TM 250 July 1996</td>
<td>Change</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining wool</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining cotton</td>
<td>3</td>
</tr>
<tr>
<td>Alkaline perspiration</td>
<td>Wool</td>
<td>TM 174* July 1996</td>
<td>Change</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining wool</td>
<td>2–5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining cotton</td>
<td>2–3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining nylon</td>
<td>2–5</td>
</tr>
<tr>
<td>Acid perspiration</td>
<td>Wool</td>
<td>TM 175* August 1993</td>
<td>Change</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining wool</td>
<td>2–3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining cotton</td>
<td>2–3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining nylon</td>
<td>2–3</td>
</tr>
<tr>
<td>Rubbing</td>
<td>Wool</td>
<td>TM 165 July 1996</td>
<td>Dry</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wet</td>
<td>3–4</td>
</tr>
<tr>
<td>Rubbing</td>
<td>Leather</td>
<td>TM 165 July 1996</td>
<td>Dry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wet</td>
<td>3</td>
</tr>
<tr>
<td>Light</td>
<td>Wool</td>
<td>TM 5 July 1996</td>
<td>&gt; $\frac{1}{2}$ SD</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt; $\frac{1}{2}$ SD</td>
<td>3</td>
</tr>
</tbody>
</table>

* Dyes regarded as particularly suitable to produce the Regtemp Blue and Hitemp Green colours may possibly cause staining of bedwear, in certain cases of prolonged contact with coloured wool, when exposed to heavy perspiration. This is especially the case with nylon fabrics the use of which should be avoided.

The minimum pass levels specified for staining of wool, cotton and nylon are consequently lower than would normally be for bed underlay materials in recognition of this factor.

However, on the basis of extensive practical experience with comparable sheepskin products, dyed with such dyes, staining of bedwear should not be a problem, especially when 100% cotton or cotton/polyester fabrics are used.

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2.13 REPORT  The following shall be reported:

(a) Designation of woolskins (see Table 1.4A).
(b) Dimensions (see Table 1.4B).
(c) Wool colour (see Clause 2.5).
(d) Wool fibre diameter (see Clause 2.6).
(e) Wool pile height (see Clause 2.7).
(f) Softness/drape (see Clause 2.8).
(g) Flatness (see Clause 2.9).
(h) Degree of tannage (see Clause 2.10).
(i) Maintenance of shrinkage temperature (see Clause 2.11).
(j) Colourfastness (see Clause 2.12).
(k) Reference to this Standard, i.e. AS/NZS 4480.1.
APPENDIX A
RATIONALE
(Informative)

A1 THE PRE-WASH FINISH  Previously, for the service life of a medical sheepskin the product was considered to be in a 'new' (at point-of-sale) condition prior to the first wash only. The 'new' point of sale condition was created by the tannery's finishing process, which produced a homogeneous ironed finish. Laundering allowed the wool fibres to relax, similarly the leather fibres relaxed and shrinkage occurred in the first wash. Further laundering did not significantly change the product appearance.

To eliminate this change from the new to the washed state the product should be fully finished at the initial wool finishing stage (see Clause 1.3.5) and prior to subsequent wet processing. It is only necessary to clip wispy wool fibres from the wool tips during final wool finishing.

A2 TANNAGE  To obtain the required shrinkage temperatures (see Clause 2.10) it is recommended that the skins be chromium tanned.

A3 DEGREASING  Lambskins and sheepskins contain natural grease within their structure. The grease is best removed by solvent degreasing since it is offensive and would constitute a health hazard in a medical sheepskin. The solvents in common use are hydrocarbons such as white spirit and chlorinated hydrocarbons such as perchlorethylene. These solvents are removed from the skin during processing.

The solvent may remove some fatliquor from the skin structure—it is advisable to replace the fatliquor following degreasing (dry-cleaning).

A4 AREA  Skins are sold on the basis of area, measured by a machine to the nearest square decimetre.

A5 URINE RESISTANT LEATHER  Glutaraldehyde can be used in conjunction with the main tanning agent in the production of sheepskins because it offers some increased resistance to urine and perspiration. Urine resistant skins are identified by the words 'urine resistant' or 'UR' on the permanent label.

A6 MEDICAL BLUE AND MEDICAL GREEN DYEING  Regtemp skins should be dyed the Medical Blue shade to identify this product. Dyeing formulations are readily available from dyestuff supply companies.

Hitemp skins should be dyed the Medical Green shade to identify this product.

A7 SIMPLE DRAPE TEST  The minimum acceptable skin softness is determined by a simple drape test. From the air equilibrated state, skins are conditioned for at least 24 h at 20°C and 65% RH prior to testing (refer to Clause 2.8).

A8 SHRINKAGE TEMPERATURE MEASUREMENTS  For measurement of shrinkage temperature up to and including 100°C, refer to Society of Leather Trades Chemists, Official Methods of Analysis, SLP 18 (1965). For measurement of shrinkage temperature above 100°C, refer to Bavinon J., American Leather Chemists Association Journal 1969, 64, 96. For tannery quality control purposes only (and not for compliance to AS 4480.1) the shrinkage temperature above 100°C can be measured in a mixture of glycerol/water (75%/25% V/V) using SLP 18 apparatus and techniques. The values obtained in glycerol/water are at least 5°C higher than in water under pressure.

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A9 STANDARD WASH AND DRY CYCLES

A9.1 General The following chemicals should not be used in any of the processes covered in this Paragraph: bleach, enzymes, phosphates, alkali, peroxides, or cold water detergents.

CAUTION: DETERGENTS CONTAINING ENZYMES, PHOSPHATES, PEROXIDE, ALKALI OR BLEACH CAN CAUSE IRREVERSIBLE DAMAGE TO LEATHER. USE A SUITABLE NON-IONIC LIQUID DETERGENT CONTAINING A BACTERIOSTAT (E.G. QUATERNARY AMMONIUM COMPOUND).

A9.2 Staining If the skin has been heavily soiled or stained with urine, it should be rinsed immediately in cold to lukewarm water.

A9.3 Regtemp sheepekins Sheepskin should be laundered in accordance with the wash formulae specified in Table A9.3 which achieves low level chemical disfection to AS 4146. The machine should be loaded to half-capacity.

A9.4 Hitemp sheepekins Sheepskin should be laundered in accordance with the wash formulae specified in Table A9.4 which achieves high level thermal disfection to AS 4146. The machine should be loaded to half-capacity.
### TABLE A9.3
REGTEMP AUSTRALIAN MEDICAL SLEEP SKINS (BLUE COLOUR)
COMMERCIAL LAUNDERING INSTRUCTIONS

<table>
<thead>
<tr>
<th>Operation</th>
<th>Water level</th>
<th>Temperature, °C</th>
<th>Time, min</th>
<th>Washing agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Wash</td>
<td>High</td>
<td>Cold</td>
<td>3</td>
<td>Detergent*</td>
</tr>
<tr>
<td>2 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td>(3.5–4.5 mL/kg of sheepskin)</td>
</tr>
<tr>
<td>3 Rinse</td>
<td>High</td>
<td>40</td>
<td>2</td>
<td>Detergent*</td>
</tr>
<tr>
<td>4 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td>(3.5–4.5 mL/kg of sheepskin)</td>
</tr>
<tr>
<td>5 Wash</td>
<td>High</td>
<td>60</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>6 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7 Rinse</td>
<td>High</td>
<td>50</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9 Rinse</td>
<td>High</td>
<td>30</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 Rinse</td>
<td>High</td>
<td>20</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>12 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13 Extract</td>
<td>—</td>
<td>—</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>14 Dry</td>
<td>—</td>
<td>60 max.</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

* See Paragraph A9.
### TABLE A9.4
**HITEMP AUSTRALIAN MEDICAL SHEEPSKINS**
(GREEN COLOUR)
**COMMERCIAL LAUNDERING INSTRUCTIONS**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Dip</th>
<th>Temperature, °C</th>
<th>Time, min</th>
<th>Washing agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Wash</td>
<td>High</td>
<td>Cold</td>
<td>3</td>
<td>Detergent*</td>
</tr>
<tr>
<td>2 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td>(3.5–4.5 mL/kg of sheepskin)</td>
</tr>
<tr>
<td>3 Rinse</td>
<td>High</td>
<td>40</td>
<td>2</td>
<td>Detergent*</td>
</tr>
<tr>
<td>4 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td>(3.5–4.5 mL/kg of sheepskin)</td>
</tr>
<tr>
<td>5 Wash</td>
<td>High</td>
<td>60</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7 Rinse</td>
<td>High</td>
<td>60</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9 Thermal</td>
<td>High</td>
<td>80</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>10 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 Rinse</td>
<td>High</td>
<td>Cold</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>12 Drain</td>
<td>—</td>
<td>—</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13 Extract</td>
<td>—</td>
<td>—</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>14 Dry</td>
<td>—</td>
<td>60 max.</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

* See Paragraph A9.

### A10 REGTEMP AUSTRALIAN MEDICAL SHEEPSKINS (BLUE COLOUR)
**DOMESTIC LAUNDERING INSTRUCTIONS**

- A soiled skin should be immediately rinsed in cold water.
- Machine wash the Regtemp Medical Sheepskin on gentle cycle, for 10 minutes in hot water up to 60°C.
- For effective washing and chemical disinfection, use a suitable non ionic liquid detergent containing a bacteriostat, which has no enzymes, phosphates, peroxide, alkali or bleach, as these chemicals may cause irreversible damage to the leather.
- Use approximately 10 mLs detergent if washing one skin only. Use 5 mLs detergent, per skin, if washing two or more skins.
- Drain and rinse for 3 minutes with warm water at 30–40°C.
- Repeat, drain and rinse cycles twice.
- Spin off excess water.
- Drying: Tumble dry on warm setting – do not exceed 60°C. Avoid over-drying.
- Alternatively, hang dry in shade away from direct heat. Flex skin vigorously to restore leather softness.
A11 HITEMP AUSTRALIAN MEDICAL SHEEPSKINS (GREEN COLOUR)
DOMESTIC LAUNDERING INSTRUCTIONS
- A soiled skin should be immediately rinsed in cold water.
- Machine wash the Hitemp Medical Sheepskin on gentle cycle, for 10 minutes in hot water up to 60°C.
- For effective washing and chemical disinfection, use a suitable non ionic liquid detergent containing a bacteriostat, which has no enzymes, phosphates, peroxide, alkali or bleach, as these chemicals may cause irreversible damage to the leather.
- Use approximately 10 mLs detergent if washing one skin only. Use 5 mLs detergent, per skin, if washing two or more skins.
- Drain.
- Rinse for 3 minutes with warm water at 30–40°C.
- To achieve high level thermal disinfection, wash the skin in water for 8 minutes at 80°C. Do not add detergent to the 80°C wash.
- Drain.
- Rinse for 3 minutes in cold water.
- Spin off excess water.
- Drying: Tumble dry on warm setting – do not exceed 60°C. Avoid over-drying.
- Alternatively, hang dry in shade away from direct heat. Flex skin vigorously to restore leather softness.

A12 HAND WASH  Alternatively, the skin can be hand washed in warm water using a non ionic detergent. Rinse and squeeze to remove excess moisture. Hang dry in shade away from direct heat.

Before leather is fully dry flex skin to restore leather softness.

A13 FREQUENCY OF LAUNDRY AND PATIENT COMFORT  Advice is given in Appendix D with regard to patient comfort frequency of laundering.
APPENDIX B
SELECTION OF TEST SAMPLES
(Normative)

Label all samples with company identification and date
APPENDIX C
SUPPLIER’S LABEL
(Normative)

The supplier’s label (see Figure C1) shall contain the following information:

(a) Supplier’s name.

(b) Commercial laundry instructions shall be in accordance with AS 4180.1. Labels shall include the following statements:
   (i) No enzymes, phosphates, bleach, peroxides, or alkalis to be used.
   (ii) Regtemp wash, ≤60°C.
   (iii) Hitemp wash, ≤80°C.

(c) Domestic laundry instructions shall be stated as per Paragraphs A10; A11 and A12. Domestic instructions may be abbreviated.

(d) The label shall clearly state that the product is made from genuine woolskin with real leather. It is recommended that the International leather symbol be used.

(e) Any other information required by state or federal legislation.
FIGURE C1 SUPPLIER'S LABEL
APPENDIX D
USER'S GUIDE FOR REGTEMP AND HITEMP SHEEPSKINS
(Informative)

D1 SCOPE This Appendix gives recommendations for optimal use of medical sheepskins and for prolongation of their effectiveness in the prevention of pressure ulcers.

D2 GENERAL The use of medical sheepskins to reduce pressure, friction and moisture problems is well documented. These factors contribute to the development, severity and duration of pressure ulcers for patients confined to bed or chair. The previous decline in the use of skins was largely due to inadequately tanned or poorly selected skins and the use of incorrect washing procedures.

D3 SPECIFIC CONSIDERATIONS Sheepskins are supplied as follows:
(a) Regtemp—labelled 'L3/L4: to be washed and dried at temperatures not exceeding 60°C'.
(b) Hitemp—labelled 'L1/L2: to be washed at temperatures not exceeding 80°C and dried at temperatures not exceeding 60°C'.

Both types can be supplied with increased urine resistance which is identified by the letters 'UR' on the permanent label.

To gain maximum advantage from the sheepskin the following procedures should be observed:
(i) The sheepskin appropriate for the patient should be selected. If urinary incontinence is anticipated, a urine resistant type should be used.
(ii) The sheepskin should be laid flat over the bottom sheet, drawsheet or seat with the wool layer uppermost.
(iii) The patient should be positioned so that, where possible, the patient's skin is in direct contact with the wool.
(iv) Prolonged compaction of the wool fibres reduces its effectiveness. For maximum cushioning the sheepskin should be replaced after a few days continuous use then relaundered and disinfected. This is sufficient to restore the pile and resilience of the wool.

D4 SEGREGATION PRIOR TO LAUNDRING Sheepskins, whether Regtemp or Hitemp, require specialized laundering and handling. Therefore they should be segregated from other bed linen. On removal from the patient's bed or chair they should be placed in the correct sheepskin laundry bag (Regtemp or Hitemp). They should be further sorted at the laundry according to washing temperature required.
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