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Laundry practice



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The following interests are represented on Committee TX/16:

Australian Chemical Specialties Manufacturers Association
Australian Healthcare Laundry & Linen Service Association
Australian Infection Control Association
Australian Society for Microbiology
Australian Wool Testing Authority
Capital Coast Health (New Zealand)
Council of Textile and Fashion Industries of Australia
New South Wales TAFE Commission
New Zealand National Linen Association
New Zealand Nurses Organisation
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Australian/New Zealand Standard™

Laundry practice

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TX/16, Laundry Practice as a revision of AS 4146—1994, *Laundry practice*.

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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FOREWORD

Textile articles used in commercial, industrial, hospital and institutional organizations are subjected to repetitive laundry processes to remove soiling, staining and various contaminants which, if not removed, will result in the article being not only aesthetically unacceptable but also a theoretical health risk. Although laundry processes may include appropriate repair and maintenance of textiles to optimize textile life these features have not been addressed in this Standard.

Commercial and industrial laundries process work from a wide variety of end users including manufacturing, food processing, entertainment, catering, accommodation and health care providers. The risks associated with laundering hospital linen, quilts, curtains plastic sheeting and other textiles are generally identified, and appropriate procedures for handling the risks are widely used. The risks in the non-hospital area are not always identified. Risks to health from non-hospital laundry work may in fact be greater than that associated with hospital work. For example, items such as hotel and motel bed linen are not subject to the infection control procedures that apply in health care establishments following change of occupant; *Salmonella* infection is a risk in some food processing industries while many industrial garments are contaminated with a variety of harmful substances. Because of the potential risk, the requirements for infection control in laundries processing non-hospital linen should be as stringent as those for hospital laundries. Although soiled textile articles have been identified as a source of pathogenic micro-organisms, the risk of disease transmission is negligible if hygienic and commonsense storage and handling of clean and soiled articles is practised. In this regard, it is intended that standard precautions be applied to the handling of soiled articles. That is, it is to be assumed that *all* soiled articles are a potential source of infection and therefore appropriate precautions are to be applied including the use of protective attire.

The laundry industries in Australia and New Zealand are quite diverse and range from modest in-house laundries operated by small hotels and motels to very large linen service operations handling in excess of 200 tonnes per week.

The laundry industry can be divided into five major segments, viz. commercial, industrial, hospital, institutional and on-premises. An additional segment of the industry that is covered by this Standard includes the coin-operated laundries. These various segments of the laundry industry may be broadly described as follows:

(a) **COMMERCIAL**

Commercial laundries operate in the private sector and handle textiles from the following:

- (i) Hotels/motels.
- (ii) Restaurants.
- (iii) Shipping and transport.
- (iv) Domestic or private sources.
- (v) Nursing homes and hospitals.

The products serviced include—

- (A) sheets, pillow cases, towels, bedspreads, blankets, continuous towels, tea towels, table linen; and
- (B) personal clothing.

(b) INDUSTRIAL

Industrial laundries operate in the private sector and handle textiles from the following:

- (i) Factories and other industrial sources.
- (ii) Offices, supermarkets, retail stores.
- (iii) Service stations.

The products serviced include—

- (A) protective clothing, e.g. overalls, aprons, uniforms, gloves;
- (B) leather/plastic safety wares including gloves, helmets, dust control mats, dust control mops and cloths;
- (C) painters' drop cloths;
- (D) car seat covers; and
- (E) cleaning rags.

Such laundries operate in an environment which may include dry-cleaning as well as conventional laundering processes.

(c) HOSPITAL

Hospital laundries operate in health or health-related areas and handle textiles from the following:

- (i) Hospitals—private, public and extended care facilities.
- (ii) Clinics.
- (iii) Dental services.
- (iv) Nursing homes.
- (v) Mental health institutions.
- (vi) General health care centres.

The products processed may include various items including all of those items listed under 'commercial' and the following:

- (A) General ward linen.
- (B) Operating theatre textiles.
- (C) Specialized hospital requirements (e.g. limb bags, ward curtains).
- (D) Staff uniforms.
- (E) Patients' apparel.
- (F) Patients' personal clothing.

(d) INSTITUTIONAL

Institutional laundries operate in areas such as correctional institutions, remand centres and mental health institutions.

The products serviced may include those items contained in 'commercial' and 'hospital'.

(e) ON-PREMISES

On-premises laundries generally operate in the hotel/motel industry, nursing homes, private hospitals and in the manufacturing industry. These laundries provide a service for their own internal use.

(f) COIN-OPERATED

Coin-operated laundries are in a somewhat different category of laundry to the previously mentioned laundries. Although coin-operated laundries are generally intended for use by householders and small commercial operators (e.g. serviced units, boarding house operators), because of time constraints they are also sometimes used by the larger commercial operators who should use the commercial laundries. Accordingly, to ensure that the end result from these laundries is of a similar quality to other commercial laundries, coin-operated laundries have been included in the Scope of this Standard.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard

Laundry practice

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies general laundry practice requirements and recommendations for commercial, industrial, hospital, institutional, on-premise and coin-operated laundries, as well as minimum performance requirements which are to be attained in order to provide an acceptable level of service.

1.2 OBJECTIVE

This Standard is intended to provide laundry operators as well as their clients with a common reference for acceptable laundry performance.

1.3 REFERENCED AND RELATED DOCUMENTS**1.3.1 Referenced documents**

The following documents are referred to in this Standard:

AS

1169 Minimizing of combustion hazards arising from the medical use of flammable anaesthetic agents

2001 Methods of test for textiles

2001.1 Part 1: Conditioning procedures

2001.2.3 Method 2.3: Physical tests—Determination of breaking force and extension of textiles fabrics

2001.3.6 Method 3.6: Chemical tests—Determination of cuprammonium fluidity of cotton and cellulosic man-made fibres

3789 Textiles for health care facilities and institutions

3789.4 Part 4: Wool blankets

3789.5 Part 5: Wool blankets—Laundering procedures

4480 Textiles for health care facilities and institutions—Medical sheepskins

4480.1 Part 1: Product specification and testing

AS/NZS

1957 Textiles—Care labelling

ISO

2267 Surface active agents—Evaluation of certain effects of laundering—Methods of preparation and use of unsoiled cotton control cloth

4312 Surface active agents—Methods of analysis and test for unsoiled cotton control cloth

1.3.2 Related documents

Attention is drawn to the following related documents:

ISO

3758 Textiles—Care labelling code using symbols

BS EN

23758 Textiles—Care labelling code using symbols (identical to ISO 3758)

National Health and Medical Research Council (NHMRC) *National guidelines for the Management of clinical and related wastes*. National Health and Medical Research Council, Canberra, 1988.

National Health and Medical Research Council (NHMRC) *Infection control in the health care setting—Guidelines for the prevention of transmission of infectious diseases* Series on Infection Control April 1996.

South Australian Health Commission *Guidelines for Infection Control in Health Care Establishments*, Section D2: Linen Handling, January 1992.

Hospital Infection Control Practices Advisory Committee (HICPAC) for the Centers for Disease Control and Prevention, *Guideline for Isolation Precautions in Hospital*, Infection Control and Hospital Epidemiology Vol. 17(1), pages 53-80:1996.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

1.4.1 Alkali

An alkaline salt (or combination of alkaline salts) used to increase the effectiveness of a soap powder or detergent by increasing the alkalinity of the wash liquor.

1.4.2 Bleaching

A common method for stain removal which uses either oxygen or chlorine bleaches to remove stains, enhance whiteness and provide disinfection.

1.4.3 Breaking force

The measure of the of the tensile force required to rupture a sample of fabric.

1.4.4 Break-wash

A pre-wash with water at a maximum temperature of 35°C to remove loose and water-soluble soil.

NOTE: A break-wash may or may not contain a washing compound.

1.4.5 Chemical damage

The loss in tensile breaking force of a fabric due to chemical degradation.

1.4.6 Clean (linen)

Linen complying with the requirements of this Standard.

1.4.7 Clean (non-linen)

Vehicles and containers of linen including trucks, trolleys, bins and the like that have been washed with at least warm water and dried so that they are visibly free from blood, body fluids and other substances.

NOTE: Depending on the type of waste, warm water and detergent or steam may be needed for appropriate washing.

1.4.8 Conditioning

Fabric softeners used to reduce the build-up of static electricity in ironers and as a softener for towelling-type products.

1.4.9 Continuous batch washer

A compartmented tunnel washing machine controlled by microprocessors and capable of large volume throughput with a minimum of manual labour.

1.4.10 Dip

The depth of water measured from the bottom of the inner cage in a washing machine containing a normal, water-saturated wash load.

NOTE: When the washing machine is at rest, the dip is referred to as the 'standing dip', and when in motion, as the 'running dip'.

1.4.11 Disinfection

Process whereby pathogenic organisms in linen are reduced to levels which would be insufficient to cause human infection.

1.4.12 Dryer tumbler

A drying machine which uses a rotary or tumble action, and which may be heated by steam, gas, oil or electricity.

1.4.13 Dryfold

A product which is washed, dried and folded, and requires no pressing or other finishing.

1.4.14 Enzyme

A substance that is used to remove protein stains, e.g. blood stains and egg stains.

1.4.15 Extraction

A term generally used to describe the removal of moisture from wet textiles.

1.4.16 Feeders

An aid to feeding sheets and other linen into an ironer.

1.4.17 Finish/finishing

The term used to define the final operation in the laundry process prior to dispatch, e.g. iron-press, dryfold, ironer or tunnel finish.

1.4.18 Finishing tunnel

A tunnel through which garments pass to remove wrinkles without recourse to pressing.

NOTE: A finishing tunnel is mostly used for cotton/polyester blends.

1.4.19 Fluidity

The reciprocal of viscosity.

NOTE: A change in fluidity is a measure of the chemical wear of cellulosic materials.

1.4.20 Folder

An aid that automatically folds flat work from an ironer.

NOTE: A folder usually gives two primary folds and two cross folds. Towel folders fold towels from drying tumblers.

1.4.21 Gall marking

Yellow discolouration of a fabric caused by alkali being allowed to dry into the fabric.

NOTE: Gall marking often arises because of inadequate rinsing, or rinsing with hard water.

1.4.22 Hydro-extractor

A machine that, after completion of the wash process, removes excess water from a wash load with centrifugal action.

1.4.23 Incineration residue (ash)

Represents a build-up of organic or inorganic residue on the fabric, often caused by inadequate softening of water hardness by chemicals and inefficient rinsing.

NOTE: This can cause discolouration, a rough feel and damage to the fabric.

1.4.24 Ironer (calender)

A machine for processing flatwork using a heated and polished bed and a roller.

NOTE: An ironer is generally a multi-roll unit which may be heated by high temperature water, steam, gas, heated oil, or electricity.

1.4.25 Linen

Any article (e.g. a garment, bed linen, table linen, a mat) that is normally laundered.

1.4.26 Mechanical wear

The loss in breaking force due to the mechanical action of the wash process calculated from the difference between the overall breaking force (total wear) and the chemical wear.

1.4.27 Membrane press

A one- or two-stage moisture extraction unit, attached to a continuous batch washer, which squeezes moisture from the textile by a membrane under high pressure.

1.4.28 Press

A machine with a heated, polished head used to press or finish small pieces of flatwork and, specifically, garments made from 100% cotton textile.

1.4.29 Process, laundry

The procedure employed to enable articles to be sent to the consumer in a clean, hygienic, aesthetic and physically acceptable condition.

1.4.30 Rinsing

An operation designed to remove all suspended soils, soaps, detergents and bleach from the textiles being laundered.

1.4.31 Shall

Indicates a mandatory requirement.

1.4.32 Sharps

Any sharp object which has the potential to cut or pierce the skin and thereby pose an infection risk (e.g. needles, blades, cannulas and broken glass).

1.4.33 Should

Indicates an advisory requirement.

1.4.34 Souring

The neutralization of residual alkalinity after washing.

1.4.35 Starching

An operation usually carried out in the last rinse.

1.4.36 Total wear

The decrease in breaking force of a test fabric after a specified number of washes as compared with the breaking force of the original test piece.

NOTE: A reduction in breaking force can be due to both chemical and mechanical degradation caused by the wash process.

1.4.37 Wash

Removal of the remaining soil from the article with soap or detergent which suspends the soil in solution.

NOTE: See Clause 1.4.4 Break-wash.

1.4.38 Washer-extractor

A washing machine that removes wash liquor by centrifugal action.

1.4.39 Washing compound

A mixture of chemicals added to the washing machine at the start of the wash operation to assist in the suspension and removal of soils.

1.4.40 Washing machine

A device designed to agitate a load of soiled textiles in an aqueous solution, including the following:

- (a) Batch washing machine.
- (b) Continuous batch washing machine.
- (c) Washer extractor (side or end loading).
- (d) Continuous tunnel washer.

SECTION 2 GENERAL REQUIREMENTS AND RECOMMENDATIONS FOR LAUNDRIES

2.1 SCOPE OF SECTION

This Section provides general requirements and guidelines for laundries.

NOTE: Figures 1 and 2 are examples of typical flow-paths of laundry from collection of soiled linen to the return of cleaned linen.

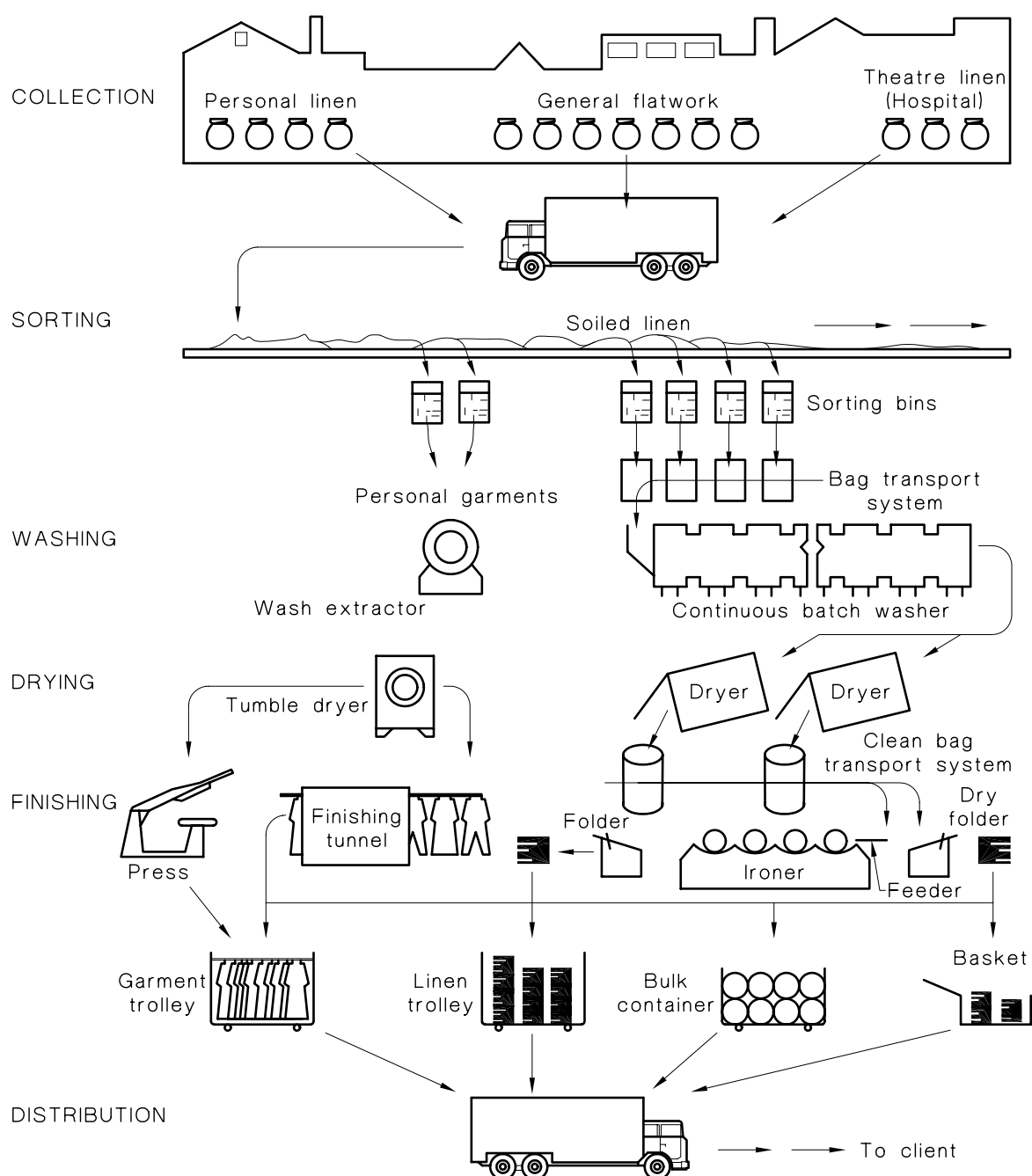


FIGURE 1 A TYPICAL FLOW PATH OF LAUNDRY FOR A LARGE SCALE FACILITY

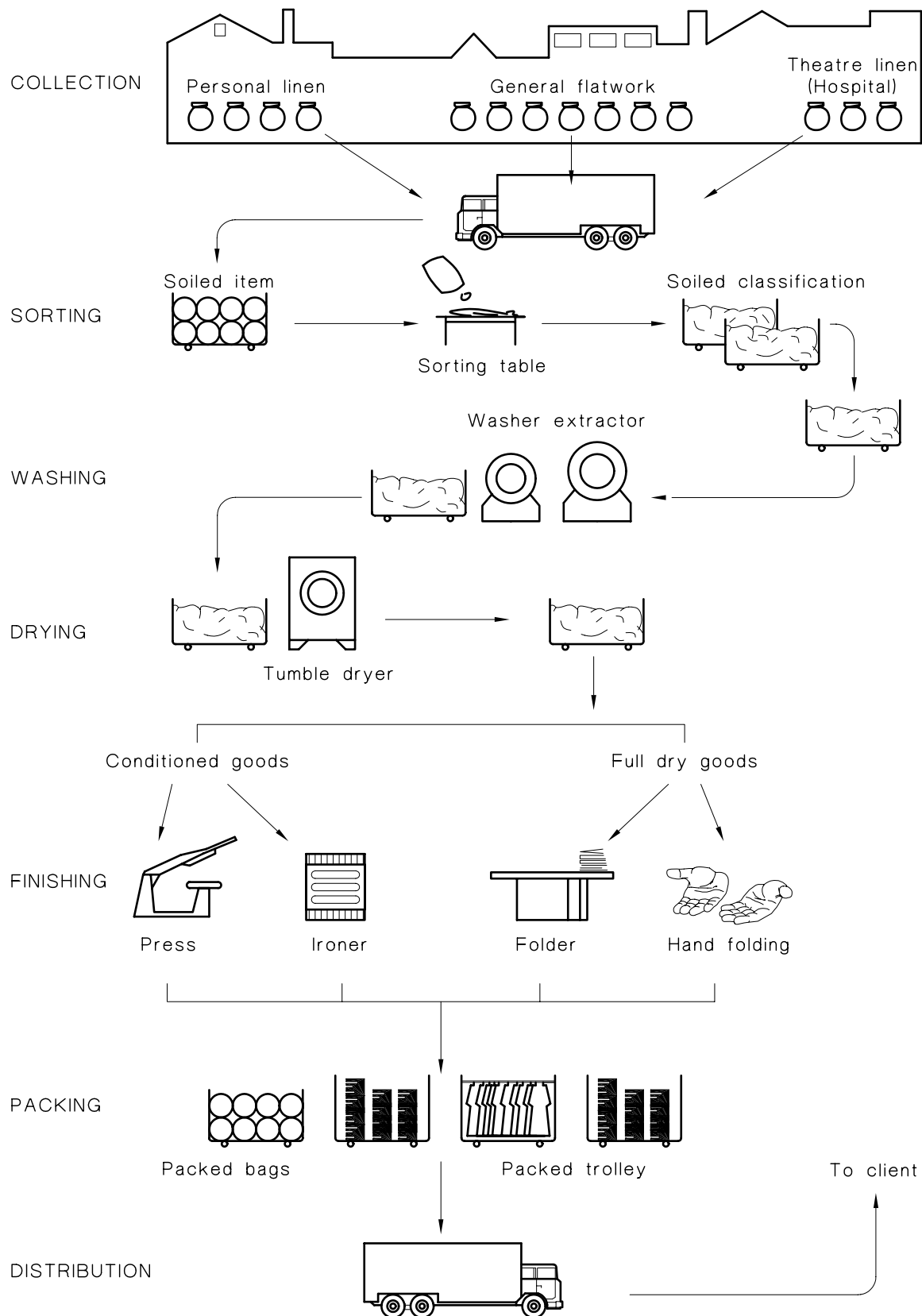


FIGURE 2 A TYPICAL FLOW PATH OF LAUNDRY FOR A SMALL SCALE OR ON-SITE FACILITY

2.2 FACILITIES AND MANAGEMENT

2.2.1 Facilities

The laundry shall comply with all the relevant regulatory authority requirements for facilities and equipment.

NOTES:

- 1 Adequate hand washing and drying, toilet, change room and showering facilities are to be provided for all employees.
- 2 Relevant regulatory bodies include: Health Department, Department of Labour and Industry, Occupational Health and Safety Authorities, Environment Protection Authority, Ministry of the Environment.

The laundry should also include the following:

- (a) The building should be of adequate size to hold the required equipment, services and systems, and afford comfort to and protection of staff, equipment and goods.
- (b) All floors, particularly in the soiled linen area, should be slip resistant and constructed so that they can be maintained in a sound condition, with no broken surfaces to impede the mobility of trolleys as well as allowing for easy cleaning.
- (c) All walls, ceilings and exposed pipework should be constructed so that they can be maintained in a sound condition, and kept clean and free from lint, dust and dirt.
- (d) The premises, fittings and equipment should be designed and constructed in such a manner that harbouring or providing access for vermin is prevented.
- (e) Where possible, natural lighting should be utilized. Lighting intensity in the different laundry work areas should conform to local statutory regulations.
- (f) The size of water, electrical and energy (e.g. gas, steam) lines should be according to the local statutory regulations for laundry equipment.
- (g) Taking into consideration chemical concentrations and temperatures, the effluent discharge lines and holding pits should be designed to meet the local statutory regulations.
- (h) Drain outlets carrying effluent from washing machines should be sealed (close piped) into the disposal system. If a washing machine drains into an open sump, this should, where practicable, be covered to prevent the spread of organisms by aerosol when the water is dumped from the machine and also to minimize the potential chemical hazard from splashing.
- (i) Laundries should be designed to prevent cleaned linen from being contaminated by soiled linen or other matter present in the laundry (including equipment). This may be achieved by—
 - (i) an appropriate barrier, e.g. a space barrier where the storage areas for soiled linen is positioned well away (at least 2 m) from cleaned linen areas (ideally, soiled and cleaned linen areas should be separated by a physical barrier or clearly defined);
 - (ii) ventilation that is adequate to minimize air contamination and to prevent contamination from dirty to clean areas (airflow should be from clean to dirty areas in all circumstances including prevailing wind conditions); and
 - (iii) providing adequate washroom and outer garment change facilities at appropriate locations.

NOTE: See Note 1 above.

- (j) Flyscreens or high voltage illuminated insect traps should be provided at least in the sorting, soiled and cleaned linen storage areas.

- (k) Equipment and systems should be ergonomically designed to reduce the risk of injury, to optimize employee comfort and to provide pleasant working conditions particularly with respect to odours, noise, lighting, heating, cooling, standing, sitting, stretching, bending and lifting.

2.2.2 Laundry management system

If compliance with this Standard is to be claimed, the laundry shall have a management system in place which includes the implementation of appropriate inspection programs to ensure that the requirements specified in this Standard are maintained and records shall be kept to demonstrate that regular inspections have been conducted.

The management system shall include the following:

- (a) Provision of safe and healthy working conditions (see Clause 2.2.3) and an acceptable working environment for employees.
- (b) That—
 - (i) supervisors and key staff are fully trained in appropriate laundry skills and technology;
 - (ii) those skills are maintained by ongoing training and supervision; and
 - (iii) only appropriately trained personnel handle and store chemicals.
- (c) That the laundry manager has appropriate knowledge of the potential infectious hazards of soiled linen.
- (d) Regular information and education to laundry staff about potential infectious hazards and techniques to prevent the spread of micro-organisms in the environment to finished linen and to themselves, as well as safe and appropriate handling procedures for soiled and clean linen.
- (e) Instruction to laundry staff that they are to report all infections such as gastroenteritis, dermatitis, pustules, skin lesions and boils and seek immediate medical attention.
- (f) Provision to laundry staff of sufficient quantities of appropriate protective clothing to be worn whilst conducting laundry duties.
- (g) Instruction to staff in personal hygiene, particularly the need for hand washing after handling soiled linen or removal of protective clothing.
- (h) That staff movement from areas where soiled linen is handled to areas where cleaned linen is processed, is minimized. If this movement is necessary, staff should be instructed to change their outer protective clothing (e.g. aprons and gloves) and thoroughly wash their hands before touching cleaned linen. Ideally, a transit zone should be provided between dirty and clean areas of the laundry, where hand washing is carried out as a routine procedure, and facilities are available to change outer garments. Whenever staff leave the soiled area of the laundry to go home or to the canteen, they should be instructed to remove outer protective garments and to thoroughly wash their hands. (Facilities should be available for staff working in soiled areas to shower before going home.)
- (i) The following routine cleaning programs:
 - (i) A cleaning program appropriate for each work area and rest area including associated furniture and equipment.
 - (ii) A schedule for cleaning overhead and hard-to-reach areas.
 - (iii) An equipment cleaning and maintenance program to ensure that the requirements of this Standard (e.g. the wash program and ironing temperatures) are consistently met.
 - (iv) A pest control program.

- (j) That suitably trained persons make regular inspections of the laundry to ensure that the requirements of this Standard are being maintained.
- (k) That—
 - (i) smoking is either prohibited or confined to appropriate areas; and
 - (ii) the consumption of food and drink is confined to appropriate areas.

2.2.3 Specific safety issues

In conjunction with the requirements of the relevant State and National Industrial, Health, Safety and Welfare Acts, the management is required to—

- (a) maintain machines, plant and equipment in a safe, reliable condition;
- (b) maintain workplaces which are tidy, clean and safe to enter, work in and leave;
- (c) adequately instruct and train employees in safe working procedures including safe chemical handling by qualified personnel and inform them of any hazard to health and safety which may be associated with the work they are required to perform;
- (d) adequately instruct employees of their legal responsibility;
- (e) provide adequate medical, health and first aid services;
- (f) make vaccination against Hepatitis B available to all employees handling soiled linen, including post vaccination testing;

NOTE: This should also include the provision of booster shots within 5 to 10 years of the initial vaccination.

- (g) maintain occupational exposure to noise, vibration and harmful substances within acceptable limits prescribed in State, Territory and Commonwealth regulations;
- (h) investigate and take appropriate action to eliminate or minimize any health or safety risk to employees, contractors and visitors;
- (i) record and investigate any accidents at work and take appropriate action in order to prevent the likelihood of any recurrence; and
- (j) maintain a hazard identification program.

2.3 LAUNDRY TRANSPORTATION EQUIPMENT

2.3.1 Transport vehicles

The following precautions should be observed:

- (a) Vehicles used for transporting linen should be designed in such a way that loads may be safely and easily handled.
- (b) Where loading docks with raised platforms are not available, transport vehicles should be constructed with a kerbside door and a floor height that is as low as possible.
- (c) The vehicles which transport linen to and from the laundry should be clean. Soiled and clean textiles should *not* be transported in the same vehicle, unless they are separated by a suitable barrier. The barrier may be defined by such means as containers with suitable closures, moisture impermeable bags or one or more suitable barrier products that would prevent contamination between the soiled and clean linen. If a compartment has carried soiled laundry, that compartment should be thoroughly cleaned before it is used to carry clean linen.

- (d) Where linen is handled in mobile trolleys, the transport vehicle should be provided with means to secure the trolleys firmly inside the vehicle. (This can be achieved with nylon webbing straps fixed to appropriate anchorages, wheel wedges, chains or lock bars.) Where the transport vehicle has a tailgate platform, restraints should be provided to prevent the trolleys rolling off the tailgate platform.

2.3.2 Laundry bags

Laundry bags should—

- (a) be made from material that is fit for the purpose intended;
- (b) be sound and free from defects such as holes or tears; and
- (c) include suitable fasteners or ties for effective closure.

To facilitate proper closure as well as safe and comfortable handling, the laundry bags should not be overfilled.

NOTE: Information on weight limits for safe handling can be obtained from the relevant Occupational Health and Safety regulations for the various States, Territories and Countries.

2.3.3 Mobile trolleys

Mobile trolleys should—

- (a) be of a design that enables easy cleaning; and
- (b) be regularly cleaned and serviced to ensure that wheels are free to rotate (i.e. free from string and other impediments).

2.3.4 Other types of transportation

Linen (e.g. industrial linen) heavily impregnated with oils, solvents, printer's ink, swarf or other contaminants may be transported in steel or plastic containers.

NOTE: See warning in Clause 2.4.3.

Other linen conveyance means (e.g. bins, conveyor belts) are to be designed to enable easy cleaning, and be regularly cleaned and maintained in good working order.

2.4 COLLECTION, LOADING, STORAGE AND SORTING OF LINEN

2.4.1 Preparation of soiled linen for collection

The launderer shall advise the client that linen which is to be collected shall comply with the following:

- (a) In addition to being placed in suitable laundry bags, linen which is heavily soiled with blood or other body fluids, or other fluids which could leak and further contaminate other linen, shall be also contained within suitable impermeable bags which are to be securely closed.

Particular attention shall be given to soiled coloured linen which could cause dye transfer.

NOTE: The Chief Health Officer, Quarantine Officer or Medical Officer in each State, Territory, Country or area must be consulted if linen soiled by quarantinable diseases (e.g. Plague, haemorrhagic fevers (i.e. Lassa, Marburg, Ebola and Congo-Crimean)), is inadvertently collected. Such linen may need to be burnt and should *not* be handled by laundry operators prior to approval being obtained from the appropriate officer.

- (b) The linen shall be free from foreign matter such as sharp objects (e.g. hospital sharps cutlery, and glass), metal objects, food remnants and paper products.
- (c) Linen such as personal items, garments and flatwork, not contaminated with blood or other body fluids may be segregated into categories, placed into suitable laundry bags and securely closed.

2.4.2 Collection/delivery of soiled/cleaned linen

Collection of soiled linen and the delivery of cleaned linen should, if applicable, comply with the following:

- (a) Where soiled linen is handled in a mobile trolley, the loading and unloading operation should be carried out on a flat level surface.
- (b) Soiled linen and cleaned linen should be transported in *different* trolleys, bins, bags or other transport means. If this is not practicable, then trolleys, bins, bags or other transport means that were used to transport soiled linen should be thoroughly cleaned and dried before being used for transporting cleaned linen.
- (c) Bags containing soiled linen should be handled carefully to avoid damage and the release of possible contaminated aerosols into the air.

2.4.3 Unloading and storage of soiled linen at laundry premises

Unloading and storage of soiled linen shall comply with the following appropriate requirements:

- (a) Soiled linen when unloaded shall be stored in an area separated by an appropriate space or physical barrier, from that where cleaned linen is stored or despatched. (See Clause 2.2.1(i)(i)).
- (b) Soiled linen shall be processed for washing as soon as it is practicable.

NOTES:

- 1 Ideally, this should occur soon after arrival at the laundry.
- 2 Soiled linen should be laundered sequentially to minimize delays between delivery and laundering. The storage of soiled linen for prolonged periods is undesirable not because of any risk of disease transmission but because of concerns relating to stain removal, mildew growth and laundry aesthetics.

WARNING: LINEN WHICH IS SOILED WITH SUCH CONTAMINANTS AS FATS, OILS, SOLVENTS, PRINTER'S INK AND SWarf SHOULD NEVER BE STORED FOR ANY LENGTH OF TIME IN ENCLOSED CONTAINERS OR IN AREAS SUBJECT TO HEAT, BECAUSE OF THE HAZARD OF SPONTANEOUS COMBUSTION.

2.4.4 Sorting of soiled linen

Sorting of soiled linen for washing is one of the most important operations in the linen process. An example of sorting types includes the following groups:

- (a) Fibre type
NOTE: See Paragraph A2.4.2, Appendix A.
- (b) Fabric structure
NOTE: See Paragraph A2.4.3, Appendix A.
- (c) Garment structure
NOTE: See Paragraph A2.4.4, Appendix A.
- (d) Colour (e.g. whites, light colours, dark colours).
- (e) Colourfastness of dyes.
- (f) Soil type.
- (g) Soil quantity (e.g. light, heavy, foul).
- (h) Time taken to process (i.e. whether large or small item).
- (i) Nature of process (e.g. dry folded, flatwork, starched, unstarched).

NOTES: The main objectives of sorting are as follows:

- 1 To enable identification, counting and marking necessary for efficient production.
- 2 To achieve the correct washing of various types of textiles. (Information on the care labelling of textiles is given in AS/NZS 1957*.)
- 3 To establish the degree of soiling, for effective stain removal. (Some methods of stain removal are given in Appendix B).

2.5 LAUNDRY OPERATION

2.5.1 Good laundry practice

As a matter of good laundry practice, the laundry shall have ongoing programs that record and monitor all key laundry processes. The programs shall include clear procedures for—

- (a) achieving and maintaining effective washing, disinfection, drying, finishing as well as appropriate product life; and
- (b) preventative maintenance systems that ensure correct and safe operation of all plant and equipment including appropriate calibration of all key equipment such as water level controls, temperature controls and other process timer controls that ensures compliance and process stability.

2.5.2 Performance evaluation

Laundries providing commercial services should comply with the requirements of Clauses 2.5.3 and 2.5.4.

Laundries which service specific non-public-health-risk products may specify different performance indicators for customer agreement.

2.5.3 Performance indicators after single wash

NOTE: This requirement is an indication of the effectiveness of the washing process.

Degree of whiteness, intrinsic greying and intrinsic yellowing.

When tested in accordance with Appendix C, the—

- (a) increase in the degree of whiteness of an unsoiled fabric due to a single wash-and-dry cycle shall be greater than 10 for each wash formula used in the laundry;
- (b) intrinsic greying (greying measured in the absence of ultraviolet radiation) of an unsoiled fabric due to a single wash-and-dry cycle shall be less than 2 for each wash formula used in the laundry;
- (c) intrinsic yellowing (yellowing measured in the absence of ultraviolet radiation) of an unsoiled fabric due to a single wash-and-dry cycle shall be less than 2 for each wash formula used in the laundry; and
- (d) percentage soil removal after a single wash-and-dry cycle shall—
 - (i) be greater than 28% for the test panel soiled with artificial carbon black and mineral oil;

NOTE: Removal of carbon black and mineral oil indicates the efficiency of the detergent and mechanical action.

* A set of symbols intended for use as a code for care labelling requirements is published by ISO (ISO 3758, *Textiles – Care labelling code using symbols*), and has been adopted by CEN (EN 23758 *Textiles – Care labelling code using symbols*). Several countries use variants of this code.