

Plumbing Regulation Advisory Notes are issued as and when necessary to assist in the interpretation of Tasmanian plumbing legislation and to keep all relevant stakeholders informed of developments within the plumbing industry.


Green light for Water Efficiency Labelling Scheme (WELS)



An agreement by Commonwealth, State and Territory governments to develop a national plan for mandatory water efficiency labelling of household fittings and appliances was announced in the May 2003 Federal Budget.

Labelling of showerheads, toilets, washing machines and dishwashers, will enable householders to make informed judgements about water efficiency of various appliances and fittings.

Currently, Australians consume more than 24,000 gegalitres of water every year - approximately 48 times the volume of Sydney Harbour, with 21% of this used in urban and industrial settings.

 Fitting a AAA-rated showerhead can save more than one-quarter of the water used by conventional all-directional showerheads.

A feasibility study on mandatory water efficiency labelling indicated labelling and standards would encourage significant reductions in urban water consumption. The feasibility study draft report, issues discussion paper and final report prepared by George Wilkenfeld and Associates Pty Ltd for the Commonwealth are available at: www.ea.gov.au/water/urban/scheme.html



The Environment Ministers also agreed to investigate the introduction of minimum water efficiency standards and to review guidelines for urban water reuse and recycling as part of a coordinated national response to better utilize and conserve water resources.

The Water Services Association of Australia conducts a voluntary National Water Conservation Labelling Scheme to provide consumers with information on the relative water efficiency of products. It covers washing machines, dish washers, showerheads, toilet suites, taps and commercial urinals. Labels are displayed on merchandise in the form of a 'rating label' as shown below.

The more 'A's' the more water efficient the product is.

Rating Water Efficiency

AAA	Excellent
AA	High
A	Acceptable
No rating	Not water efficient



General information about the Water Services Association of Australia's voluntary labelling scheme is available at www.wsaa.asn.au/pdf/2003/consumer5a.pdf.

Other information about water efficient products is available on the Australian Greenhouse Office website: www.greenhouse.gov.au

Please circulate to:



STOP PRESS

The parts of the *Building Act 2000* relating to accreditation of building practitioners will commence on the 3rd of September 2003.

This will not, normally, effect plumbers except for those who also carry out building work.

For more information on accreditation visit our web site at: www.wst.tas.gov.au

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LEACHING OF CHEMICALS AND PESTICIDES THROUGH POLYETHYLENE PIPE

Polyethylene (PE) pipe is very resistant to (non oxidising) strong acids, strong bases and salts however, it is mildly affected by aliphatic solvents and aromatic and chlorinated solvents by causing some swelling. PE is also attacked by strongly oxidising substances such as halogens and concentrated inorganic acids such as nitric, sulphuric (including oleum), perchloric and aggressive chemicals in any one of the following ways:

- Reduction in tensile properties i.e. strength and elongation at break
- Swelling or absorption of the liquid
- Shrinkage or extraction of the soluble portion

Therefore water supplies may be affected by the leaching of organic carbon based petrochemicals, turpentine, and pesticides through PE pipe water services. There have been reported cases in Queensland of strong smells and taste in the drinking water supplies. The water services were replaced by copper piping in these cases and no smell or taste has been reported since.

Legislation

The Tasmanian Plumbing Code requires products to be authorised for use and be fit for purpose. Polyethylene pipes and fittings must be manufactured to an Australian Standard and certified by a certifying body in accordance with MP52 *Manual of authorization procedures for plumbing and drainage products*. Polyethylene pressure pipes below ground must be installed in accordance with AS/NZS 3500.1.2 *Water Supply* and AS 2033 *Installation of polyethylene pipe systems*.

Interpretation

AS/NZS 3500.1.2 specifies that polyethylene pipes and fittings must not be used in areas subject to contamination by petroleum products. AS 2033 also recommends a list of chemicals not suitable for use with polyethylene pipes and fittings. Information on the chemical resistance of plastic pipes and fittings can be found on the Internet at:

<http://www.iplex.com.au/html/chemical.shtm#chemprop>.

HANDLING AND STORAGE OF POLYETHYLENE PIPES AND FITTINGS



Polyethylene (PE) pipes and fittings have considerable resilience, flexibility and resistance to impact, however they can be scored by sharp edges and can be distorted under load and high

temperatures and break down when exposed to petrochemical products.

General

- Pipes and fittings should not be dropped, crushed or impacted. They should not be stored or transported where exposed to heat sources likely to exceed 70°C. While PE is very resistant to low temperatures, as temperatures drop below freezing impact resistance is slowly weakened, and greater care must be taken to avoid impact damage.
- Pipes and fittings must not be placed where they will come into contact with lubricating or hydraulic oils, petrol, solvents, or other aggressive materials (see article above).
- Scores and scratches to a depth of 10% or more of the wall thickness are sufficient to cause rejection for any pressure application.

Lifting and handling

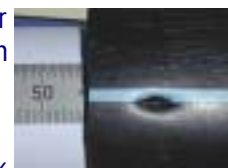
PE pipes and fittings should not be subject to rough handling at any time. When lifting PE pipe by mechanical means only use webbing slings for lifting, never use chains, wire ropes or hooks. Lifting of individual pipes or packs up to 6m in length can be handled by a forklift, however care needs to be taken to prevent drooping and subsequent scuffing of pipe ends. Two lifting points or spreader bars should be used for packs longer than 6m.

Coils and uncoiling from drums

During coiling or uncoiling operations care should be taken to maintain the coil diameter at or above the specified minimum to prevent kinks, and to prevent sharp objects from scoring the pipe. Coiled pipe in drums contains the same stored energy as coiled pipe and it is necessary to restrain the end of the pipe to make sure that it is under control and the drum can revolve slowly to allow the pipe to unravel. Under no circumstances should a drum be allowed to drop from the back of a truck, even onto a stack of tyres or other buffer system. Special care should be taken when lifting drums.

Storage and transport

Pipes of a colour other than black should be protected from elevated temperatures and direct sunlight during storage and transport particularly if they are to be stored for 6 months or more. Pipes stacked for storage and transport should be continuously and evenly supported to minimise distortion. Alternatively, horizontal supports of at least 75 mm bearing width, spaced not further apart than 1.5m centre to centre, should be placed beneath the pipes. Pipes with end treatments such as belling, forming, flanging or pre-assembled fittings should be stacked so that the ends are free of loading and kept free from damage.



Sourced from Plastic Industry Pipe Association, Industry guideline POP005.

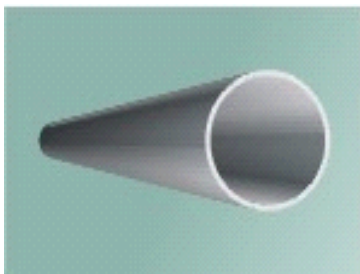
This and many other useful Guidelines can be found on the internet at: <http://www.pipa.com.au/Guidelines.html>.

USE OF STEEL PIPE (TUBE) IN WATER SERVICES



In water services for general purposes, continual flow of water through pipes keeps water oxygenated. With galvanized (Gal.) or black steel (BS) pipes this can cause internal corrosion reducing the pipe bore and cause leaks. External Gal. coating may also be subject to corrosive attack in some below ground situations. AS/NZS 3500.1.2 *Water Supply* places limitations on the use of Gal. and BS pipes. The Standard restricts the use of Gal pipe for general use. BS pipes are restricted to above ground use for fire hydrant and sprinkler systems. Gal pipes must not be used in property services or in concealed locations unless used in a fire service.

The Standard requires BS pipes to be manufactured to AS 1074, *Steel tubes and tubulars for ordinary service*.



Gal pipe are to be "Heavy" thickness for up to and including DN 80 and may be "Medium" thickness for >DN 80. As

stated above steel pipes can only be used in fire services (non drinking water) downstream of the principal backflow prevention device, generally fitted at the property boundary to the water supply. BS pipes cannot be used upstream of the backflow device i.e. on a fire service between the water main and the inlet of the backflow device. BS pipes must not be used where hose reels are permitted to be part of a drinking water service.

Galvanised coatings

The durability of Gal. pipe and fittings is proportional to g/m² coating of Gal. The thickness and method of application of the Gal. coating will determine the life of the pipe and not the wall thickness of the pipe itself. The internal and external coating on pipes and fittings must be a minimum of 300g/m² hot dipped Gal. to AS/NZS 4680 or AS/NZS 4792. Damage to Gal. coatings during installation must be touched up using epoxy resins.

Light wall steel pipe

Where permitted under the relevant installation standards for fire services, light wall steel pipe may be used (see AS 2118.1 *Automatic fire sprinkler systems* & AS 2419.1 *Fire hydrant installations*). The straight lengths of pipe must be marked as required by AS 2118.1 and AS 2419.1 throughout its length at intervals not exceeding 1m. The permit authority's "Conditions of Permit" for the fire service installation may specify that the fire service can only be used for fire fighting purposes. It is essential that these conditions of permit be observed. If hydrants or hose reels are used for purposes other than fire fighting, premature failure of the light steel pipe may occur. It is a requirement of the installation standard that individual hydrant risers or short connection pieces of steel pipe not exceeding 1.5m may be below ground. The riser, fitting or coupling must be protected by double wrapping with a petrolatum type tape system.



This article has been adapted from Technical Solutions published by the Plumbing Industry Commission of Victoria

Q & A—Isolating valves in hotels



Are isolating valves required in each room of a multi storey hotel?

Requirements for providing isolating valves can be found in Table 5.1 "Isolating Valves for Water Services" of AS/NZS 3500.1:2. Water supply. In multi-storey hotels isolating valves are required to be provided at each group of fixtures. There is no requirement to provide an isolating valve for each room.

However, in the case of flats on individual titles, each flat should have a separate water service and isolation valve.

In the situation of two hotel rooms fed from one valve this will result in them not being supplied with water if there is a fault in one of the rooms. To repair this fault may take a matter of minutes or it could take more than one day resulting in both rooms not being available for hire or rent. The risk to loss of revenue will have to be assessed by the designer, owner or operator of the premises. Best

practice would be to have one isolating valve to each room and therefore, no disruption to the guest/s in the adjacent room if the room is occupied. However, common sense would say one isolating valve per two rooms would be quite adequate.

Interpretation

AS/NZS 3500.0: *Glossary of terms* does not define "fixture group," "group," or "group of fixtures." The Oxford Dictionary defines "group" as a "number of persons or things near together or belonging or classed together." Based on this definition, for a fixture group, one valve can control two (or more) rooms i.e. where the fixtures from two or more bathrooms back to back are fed from a single branch.



HOT WATER FROM COLD WATER SUPPLY

During summer it has been found that the delivery temperature of water from a cold water service may exceed 50° C. for some installations, which is in excess of the maximum hot water delivery requirements. This can be caused by installing main delivery pipes in enclosed roof spaces. The temperature increase in the cold supply can occur in buildings with dark colour roofs and roofs of little or no roof space ventilation. Hot water delivery temperatures are regulated for the safe operation of sanitary fixtures used for personal hygiene whereas in AS/NZS 3500.1.2, Cold water supply it is not. The Tasmanian Plumbing Code Functional Requirement for cold water supply is "Sanitary fixtures, sanitary appliances and drinking water outlets are to have a safe and adequate piped water supply". Plumbers must ensure that cold water installations meet such requirements.

Achieving performance

Any pipe work under a slab or in a confined floor space must comply with Section 5 of AS/NZS 3500.1.2.

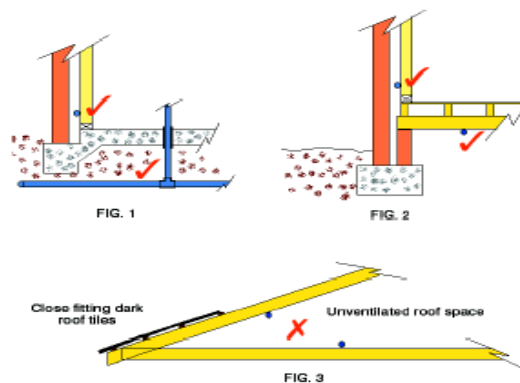
The following are some suggested installation methods:

- Where buildings have sub-floor access, utilise this area to locate the cold water piping system – Fig 2.
- Avoid ceiling spaces where the roof is a dark colour and has limited flow through ventilation. Keep all pipe work clear of the underside of the roof surface – Fig 3.

Note: A lot of new house roof spaces will be designed to have little or no ventilation as a result of the energy efficiency measures adopted by the Building Code of Australia.

- Avoid external cavity walls facing north or west & avoid the pipe work touching the external wall cladding. Keep pipes running horizontally along a cavity near the base of the cavity while maintaining the cavity required by the Building Code of Australia – Fig's 1 & 2.

Regardless of pipe material, any hot or cold pipe must be lagged with quality lagging material where a temperature increase from solar radiation can be expected.



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OCCUPATIONAL LICENSING ACT—UPDATE

Local Government was recently invited to comment on a Discussion Paper relating to the introduction of an Occupational Licensing Act. This advice is to clarify some of the issues raised by Councils in their submissions.

The proposal regarding self-certification does not change existing arrangements as there is already capacity for self-certification of plumbing work subject to the council accepting a certificate of compliance from a plumber. When a certificate is accepted a plumber must submit drawings of any completed drains and any other documents required by the engineer. Councils who do

not support this practice can continue to inspect plumbing work. It is proposed to require random auditing of plumbing work where a Permit Authority (council) chooses to accept certificates of compliance from a plumber under the *Building Act 2000* when it is proclaimed. The proposals will not impact on work being carried out on councils infrastructure however existing arrangements will remain for backflow prevention plumbing. The current arrangements require councils to engage registered plumbers with competencies in backflow prevention plumbing to carry out any backflow prevention plumbing work.

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