

Technical Solution Sheet 6.07

6: Hot Water Plumbing

Special Option for Temperature Pressure Relief (TPR) Valve

AIM

The aim of this technical solution is to provide a special option for discharge from a Temperature Pressure Relief Valve drain (TPR) on a close coupled solar hot water service supplied by a rainwater tank and pressure pump.

PLUMBING REGULATIONS 2008

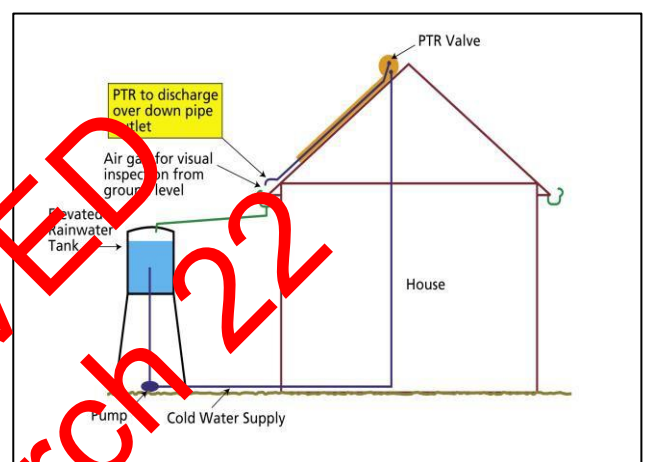
The *Plumbing Code of Australia* (PCA) is adopted by and forms part of the *Plumbing Regulations 2008*. Part B2 of the PCA specifies the objectives and performance requirements related to the installation of heated water services. [AS/NZS 3500.4: Plumbing and drainage Part 4: Heated water services](#), is a “deemed to satisfy” document listed in Part B2 of the PCA and contains sections on “Temperature/Pressure Relief and expansion control valve drain lines” and “Installation of solar water heaters”.

BACKGROUND

If a TPR valve malfunctions in a close coupled solar hot water system supplied by a rainwater tank and pressure pump, the contents of the tank may be emptied and could damage the pump if the TPR drain does not feed back into the tank.

To prevent this from occurring, the special option detailed in Figure 1 is considered to be an acceptable alternative to the normal TPR drain termination provisions of [AS/NZS 3500.4](#) for this type of installation only.

FIGURE 1 - TPR DRAIN ON A CLOSE COUPLED SOLAR HOT WATER HEATER SUPPLIED BY A RAINWATER TANK AND PUMP



Notes:

- The downpipe material for this installation must be of a type that will withstand the high discharge temperatures from the TPR valve, especially in the event of malfunction of the valve. Metallic materials such as pre painted steel or zinc / aluminium should be acceptable. Plastics material must not be used unless the manufacturer can confirm their material is suitable for this application.
- The drain pipe from the TPR valve must be copper and care should be taken to ensure that appropriate measures are taken to avoid any contact with metallic roof materials. For further information, refer to [AS/NZS 3500.3: Plumbing and drainage Part 3: Stormwater drainage](#) Sections 2.3 and 4.4.

Technical Solution Sheet 6.07

- The TPR valve drain should discharge directly over the downpipe outlet to ensure that no discharge from the copper drain can come into contact with the eaves gutter system.
- These provisions for solar system TPR discharge may also be used where both options of solar hot water and a rainwater tank are installed. The 6 Star requirements as set out in the Victorian variation to the energy provisions of the *Building Code of Australia* provide that, in the case of a new Class 1 building, either a rainwater tank connected to all sanitary flushing systems or a solar water heater system is to be installed in accordance with the *Plumbing Regulations 2008*.

- In areas where the property can be supplied with drinking water from a water authority main, it is generally expected that water collected in a rainwater tank will not to be used for drinking or any other form of human consumption.

This is because water authorities regularly monitor the quality and safety of water to ensure that it is free from contaminants and microorganisms that can cause disease. The same controls are not in place for domestic rainwater. It is not the intention of this technical solution to determine whether or not water from a rainwater tank is suitable for drinking.

Any materials and products that are in contact with drinking water must comply with *AS/NZS 4020: Testing of products for use in contact with drinking water*. For more information refer to:

www.health.vic.gov.au

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