Marginal Markings

Solid vertical lines indicate technical changes from 2012 IBC.

Dashed vertical lines indicate technical changes in Seattle amendments.

Solid deletion arrow indicates IBC text has been deleted.

Hollow arrow indicates Seattle amendments have been deleted.

Text Markings

Underlining indicates Seattle amendments. **ADULT FAMILY HOME.**

Italics indicate a defined term. A *dwelling* licensed.

Strikethrough indicates Seattle deletions. ((~~ADULT FAMILY HOME~~))

A bracketed and underlined W indicates Washington state amendments. **[W]**

CHAPTER 23
SOLAR THERMAL ENERGY SYSTEMS

SECTION M2301
THERMAL SOLAR ENERGY SYSTEMS

Note: this chapter includes only those sections of the 2015 International Residential Code for which amendments are proposed.

M2301.2.3 Pressure and temperature relief valves and system components. System components containing fluids shall be protected with temperature and pressure relief valves or pressure relief valves. Relief devices shall be installed in sections of the system so that a section cannot be valved off or isolated from a relief device. Direct systems and the potable water portion of indirect systems shall be equipped with a relief valve in accordance with Section ((~~P2804~~)) 504 of the *Uniform Plumbing Code*. For indirect systems, pressure relief valves in solar loops shall comply with SRCC 300. System components shall have a working pressure rating of not less than the setting of the pressure relief device.

M2301.2.5 Piping insulation. Piping shall be insulated in accordance with the requirements of ((~~Chapter 11~~)) the International Energy Conservation Code. Exterior insulation shall be protected from ultraviolet degradation. The entire solar loop shall be insulated. Where split-style insulation is used, the seam shall be sealed. Fittings shall be fully insulated.

Exceptions:

1. Those portions of the piping that are used to help prevent the system from overheating shall not be required to be insulated.
2. Those portions of piping that are exposed to solar radiation, made of the same material as the solar collector absorber plate and are covered in the same manner as the solar collector absorber, or that are used to collect additional solar energy, shall not be required to be insulated.
3. Piping in thermal solar systems using unglazed solar collectors to heat a swimming pool shall not be required to be insulated.

[W]M2301.4 Heat transfer gasses or liquids and heat exchangers. *Essentially toxic transfer fluids*, ethylene glycol, flammable gases and flammable liquids shall not be used as heat transfer fluids. Heat transfer gases and liquids shall be rated to withstand the system's maximum design temperature under operating conditions without degradation. Heat exchangers used in solar thermal systems shall comply with Section ((~~P2902.5.2~~)) of the *Uniform Plumbing Code* and SRCC 300.

Heat transfer fluids shall be in accordance with SRCC 300. The flash point of the heat transfer fluids utilized in solar thermal systems shall be not less than 50°F (28°C) above the design maximum nonoperating or no-flow temperature attained by the fluid in the collector.

M2301.7 Solar thermal systems for heating potable water. Where a solar thermal system heats potable water to supply a potable hot water distribution system, the solar thermal system shall be in accordance with Sections M2301.7.1, M2301.7.2 and ((~~P2902.5.5~~)) the *Uniform Plumbing Code*.

M2301.7.1 Indirect systems. Heat exchangers that are components of indirect solar thermal heating systems shall comply with ((~~Section P2902.5.2~~)) the *Uniform Plumbing Code*.

M2301.7.2 Direct systems. Where potable water is directly heated by a solar thermal system, the pipe, fittings, valves and other components that are in contact with the potable water in the solar heating system shall comply with the requirements of Chapter ((~~29~~)) 6 of the *Uniform Plumbing Code*.