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**2024 IAPMO Solar, Hydronics and Geothermal,
Swimming Pool, Spa and Hot Tub Codes Now Available**

Ontario, Calif. (May 14, 2024) — The International Association of Plumbing and Mechanical Officials (IAPMO®) has published the 2024 editions of the *Uniform Solar, Hydronics and Geothermal Code*® (*USHGC*) and *Uniform Swimming Pool, Spa and Hot Tub Code*® (*USPSHTC*) in both hardcopy and electronic versions, completing a three-year consensus development cycle accredited by the American National Standards Institute (ANSI). These publications may be purchased through the IAPMO web store at the following URL:
<https://iapmomembership.org/store/>

The *USHGC* is a model code developed by IAPMO to govern the installation and inspection of solar, hydronic, and geothermal energy systems as a means of promoting the public's health, safety and welfare. The 2024 *USHGC* addresses the latest provisions and technology paving the road to zero net energy and for the safe installation of solar, hydronics and geothermal energy systems.

Key provisions of the 2024 *USHGC* and changes from the 2021 edition include:

- New hanger and support requirements for PE-RT and PEX in support channels
- New requirements addressing protective barriers for energy storage systems installed in garages
- New requirements for hydronic system fluids, addressing heat transfer fluid quality, freeze protection, disposal, protection of the potable water supply, identification of chemical additives, and makeup fluid
- Updated requirements for expansion tanks and engineered fluid expansion storage systems
- Updated material requirements and joining methods for hydronic, solar thermal, and geothermal system piping, tubing and fittings
- Updated provisions addressing oxygen diffusion corrosion in hydronic systems
- New minimum bend radii for polyethylene pipe and tubing installed in hydronic systems
- New minimum floor surface temperature for radiant cooling systems
- Updated insulation requirements for radiant wall and ceiling panels
- Updated insulation requirements for solar thermal piping
- Updated requirements for geothermal energy system design, such as site surveys, makeup water quality, and heat pumps
- Updated requirements for geothermal energy system installation, such as setbacks, shutoff and bypass valves, and tracer and warning markings
- New requirements addressing distributed energy systems including ambient temperature loops, thermal resources, thermal metering, system assets, and performance
- Updated solar photovoltaic (PV) provisions to correlate with the latest NFPA 70-2023
- Updated installation guidelines for solar PV systems for commercial buildings
- New Appendix C addressing solar ready construction for low-rise residential buildings
- New Appendix E providing recommended configurations for closed-loop hydronic systems
- New Appendix F addressing net zero energy and net positive energy buildings



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The *USPSHTC* is a model code developed by IAPMO to govern the installation and inspection of both public and private swimming pools, spas, and hot tubs to increase the safety of their operation. The 2024 *USPSHTC* addresses the latest provisions and technology for the safe installation of swimming pools, spas and hot tubs.

Key provisions of the 2024 *USPSHTC* and changes from the 2021 edition include:

- Additional requirements for flood resistant design and construction for flood hazard areas
- New provisions for construction site fencing
- Inclusion of additional applicable material standards for building supply, water distribution, and circulation systems
- New provisions for transportation conveyor systems
- New requirements for slip-resistant walkway surfaces for wave pools, interactive water play venues, and decks
- New lighting requirements for aquatic venues and underwater lighting
- Updates to swimming pool finishes and surfaces
- New requirements for deck slopes, material, and spacing
- New provisions for primary disinfection, secondary disinfection, and supplemental disinfection
- Water chemistry table has been updated to include new parameters
- Updates to surge tank storage capacity
- New requirements for turnover times
- Updates to equipment rooms
- New requirements for solar pool, spa, and hot tub heaters
- New provisions for alarms for automatic and rapid detection of emergencies
- Updates to barrier requirements
- Provisions for entrapment prevention have been updated
- New provisions for interactive water play venues
- New provisions for artificial white-water courses, float tanks, surf pools, artificial lagoons, and lazy rivers

IAPMO first developed the *USPSHTC* in March 1967 and the *USEHC* in September 1976. The provisions of these codes apply to the erection, installation, alteration, repair, relocation, replacement, addition to or maintenance of any solar energy, hydronic heating/cooling, swimming pool, spa or hot tub system.

For questions about the *USHGC*, please contact Taylor Duran at (909) 218-8126 or taylor.duran@iapmo.org. For questions about the *USPSHTC*, please contact Enrique Gonzalez at (909) 230-5535 or enrique.gonzalez@iapmo.org.

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*Sponsor of the Uniform Codes, IAPMO® – The International Association of Plumbing and Mechanical Officials
– works in concert with government and industry for safe, sanitary plumbing and mechanical systems.
Learn more about IAPMO at www.iapmo.org.*