



RESIDENTIAL FIRE  
SAFETY SYSTEMS

MODULAR BUILDER  
FIRE SPRINKLER

GUIDELINES

## Modular Builder Fire Sprinkler Guidelines

*Refer to the following guidelines to ensure proper and efficient installation of Uponor AquaSAFE™ multipurpose fire sprinkler systems in modular homes.*

### 1. Find a Contractor

Uponor requires that only qualified modular builders and/or plumbing contractors install the AquaSAFE multipurpose fire sprinkler system. Because modular structures generally require work both in the factory and at the final destination, finding a contractor can be a challenge (especially if the home is shipped to another state). To find a qualified AquaSAFE installer (Alliance Member) in your area, or to have your contractor trained to install AquaSAFE and become an Alliance Member, simply contact an Uponor Technical Fire Safety Representative at 888.594.7726 or [technical.services@uponor.com](mailto:technical.services@uponor.com).

### 2. Complete the Design Request Form

To begin the design process, the builder and/or contractor must first complete an AquaSAFE™ Design Request Form (found on [www.uponorpro.com](http://www.uponorpro.com) in Technical Support/Forms). Once Uponor Design Services

receives the completed form, the system design begins and a completion date is assigned to the project. Design times are typically 10 business days from arrival of all required information.

**Important!** Incorrect information or assumptions can drastically affect installation, delay approval from the city during inspections, and add unnecessary costs to the system. For example, incorrect street pressure or underground sizing may require the addition of a pump.

### 3. Size the Underground

If the option exists to request any size of underground to the developer and/or water authority, contact Uponor Design Services at 888.594.7726 or [design.services@uponor.com](mailto:design.services@uponor.com) for assistance. Ask the designer to size the underground and also recommend a water meter

size prior to the underground installation. Designers can provide multiple options to discuss with the developer and/or water authority to find the most cost-effective solution.

### 4. Contact the Water Authority

Contact the water authority to obtain street pressures at the development and/or lot number where the home will ship. (These numbers will be needed on the AquaSAFE Design Request Form.) If the entire development is modular-home construction being shipped by your company, take the street pressure at the highest point in the development to ensure the worst-case pressure scenario and avoid pumps.

**Important!** Uponor highly recommends a site and elevation plan.

If the project is a single home in a development, ask for the elevation and location of the pressure test (typically found on the site and elevation plan.) Also, be aware of the different sizes of meters available. Some water authorities may only have a 5/8" meter option. Residential fire sprinkler systems will need at least a 3/4" meter; however some homes with steep vaulted ceilings or undersized existing underground may require 1" meters. Uponor always recommends requesting a 1" meter if the option is available. This will save money on system material by reducing friction loss and allowing further sprinkler spacing thus requiring fewer sprinklers in the design.



## 5. Send in Architectural Plans for a Fire Sprinkler Design

Have your architect or drafting department submit the plans and the AquaSAFE Design Request Form to [design.services@uponor.com](mailto:design.services@uponor.com). Be sure the architectural plans are current and have all applicable options clearly labeled by unit type. Uponor also requires section drawings showing all interior ceiling slopes and pitches. Submit electrical and mechanical plans to avoid changes in the field. Even if using tract-style home plans, the Authority Having Jurisdiction (AHJ) may require a separate submittal for each address. Again, to avoid confusion, be sure all unit types and options are clearly labeled.

**Important!** DO NOT send units labeled by address. The address will insert into the title block later for submittal to the city.

To inquire about the status of your plans, contact Uponor Design Services at 888.594.7726 or [design.services@uponor.com](mailto:design.services@uponor.com).

## 6. Submit the Design to the City

Submit two (2) copies of the completed design (signed if needed) to the city for approval, along with hydraulic calculations and applicable cut sheets. (This is usually submitted by the contractor, however be sure to verify submission requirements with the state or province where the home will be shipped.) Once plans are approved, the city or province will keep one copy and send the other copy back to the contractor for installation. Be sure to have the contractor ship you a copy of the approved plans for your records. Uponor can provide a PDF of the plans for installation on the jobsite, however an approved plan from the city or province must be kept on the jobsite at all times. Uponor Design Services also allows one free revision for as-builds if needed.

## 7. Install the System

Once the approved plans are sent to the contractor, the system is ready to be installed. Be sure to give the contractor plenty of notice regarding the installation at the jobsite. Generally, the contractor will need to finish connecting the home to the water supply, fasten any sprinklers that were not able to be installed at the factory and test the system. The contractor is also required to install a data plate on the system side of the meter showing the required minimum pressure to operate the system. For data plate vendors, contact Uponor Design Services at 888.594.7726 or [design.services@uponor.com](mailto:design.services@uponor.com).

**Important!** DO NOT schedule an inspection until the system is completely installed and tested by the contractor. (This will avoid wasting the inspector's time.)

## 8. Flow Test the System

Although Uponor only requires a single-sprinkler flow test from the most demanding sprinkler, the AHJ may require the most demanding two (2) sprinklers be tested simultaneously. Check with your AHJ (inspector) for local requirements. Be sure to conduct the flow test before the inspection to verify the system meets the required flow specified on the plans.



After successfully conducting the flow test and meeting the required demand from the sprinkler(s), schedule the inspection with the city. Make sure the test is ready to go when the inspector arrives at the jobsite and have the AquaSAFE Flow Test Verification Form ready to be signed. (This form is located on [www.uponorpro.com](http://www.uponorpro.com) in Technical Support/Forms.) Request that the contractor sends you a copy of the successful flow test form. If your flow test fails, contact Uponor Design Services at 888.594.7726 or [design.services@uponor.com](mailto:design.services@uponor.com).

## 9. Document the Flow Test

Complete the AquaSAFE Flow Test Verification Form and be sure to log the head number(s) and the applicable flow rates. The contractor and inspector will sign the witness section of the form and keep copies for themselves. The contractor is also required to send Uponor Design Services a copy of the completed and signed form. Again, you will want a copy for your records as well.

**Important!** Uponor Design Services must receive the completed and signed AquaSAFE Flow Test Verification Form to enact the warranty of the system.

## 10. Leave Necessary Documents at the Home

Uponor provides a plastic placard to leave at the home after the installation is complete, informing homeowners of basic system information. This documentation is required by the National Fire Protection Association (NFPA) 13D and the International Residential Code (IRC).

**Note:** Multipurpose systems do not require annual inspections (unlike most standalone systems that require a testable backflow preventer). The multipurpose system is tested each time an occupant uses a cold-water plumbing fixture. If cold water reaches the tap, it is also available to the fire sprinklers.

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