



Community
Development



Residential Fire Flow Requirements

What is fire flow?

Fire flow is the term used for how much water it takes to put out a fire.

When is fire flow required?

Fire flow is required when a division of land occurs or your house is 5,000 square feet or more, and if an accessory building is more than 3,600 square feet.

How much fire flow is needed?

When required for residential dwelling, 500 gallons per minute (g.p.m.) for a minimum of thirty (30) minutes is needed for one and two family homes here in Kitsap County. To provide fire flow, at least one fire hydrant must be within 600 feet of the dwelling and shall be capable of supplying 500 g.p.m. For accessory buildings minimum fire flow requirements depend on type of construction and size of the building. Contact the Kitsap County Fire Marshal's Office for determination.

How is square footage calculated for fire flow?

To calculate the square footage of your house for fire flow:

Total Square Footage within exterior walls	
Plus (+) Square Footage of roof overhangs and/or eaves	
Plus (+) Square Footage of any area used for storage (ie attic/crawl spaces)	
Plus (+) Square Footage of any covered decks or porches	
Plus (+) Square Footage of any areas below elevated decks that may be used for storage	
Equals (=) Total Fire Flow Square Footage	

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When can I use Fire Flow Table B103.3?

For a residential dwelling if the total square footage is 5,000 square feet or more and your lot was not required to have fire flow when it was created you may use the table below to choose your fire protection credits. You are unable to use Table B103 for accessory buildings or to mitigate the requirements for fire apparatus access. The below table is used to provide different methods of fire protection to meet your fire flow requirements. A 100% or 500 g.p.m. is needed to be met when your house is 5,000 square feet or more.

Below are the methods for achieving the fire protection credits, and the explanation. You may use multiple methods in order to reach 100%.

Method	Fire Protection Credit
<p>1.) Automatic Fire Sprinkler System</p> <p>The installation of a residential fire sprinkler system throughout the living space.</p> <p>*Note on building plan a fire sprinkler system will be installed. A separate fire code permit will need to be submitted.</p>	<p>100% or 500 g.p.m. fire protection credit.</p>
<p>2.) An existing fire hydrant within 1000 feet (1,000') of structure which is capable of supplying 500 g.p.m. for 30 minutes and on an accessible road.</p> <p>To find your closest hydrant and how much water is available contact your local water department. If you have the required fire flow within the 1000 feet, request a fire flow letter from the water department. This documentation is to be submitted with your information request or your building documents. A Site Plan shall also be provided to indicate the location of the fire hydrant.</p>	<p>100% fire protection credit.</p>
<p>3.) NFPA 13D (partial system) Residential fire sprinkler system for target hazards. (systems may use domestic water supply.)</p> <p>The installation of a residential fire sprinkler system in the kitchen and/or attached garages. This system will need to be designed by a NICET III certified professional or homeowner designed per IRC.</p> <p>*Note on building plan a fire sprinkler system will be installed. A separate fire code permit will need to be submitted.</p>	<p>Kitchens = 50% or 250 g.p.m. credit.</p> <p>Garages = 25% OR 125 g.p.m. credit.</p> <p>75% or 375 g.p.m. credit for protection of kitchen and attached garage.</p>

<p>4.) Automatic fire extinguishing system for protection of cooking appliances.</p> <p>A fire extinguishing system over the cooking appliance can be two (2) sprinkler heads installed in the kitchen or the installation of the Guardian III Automatic Residential Fire Suppression System under the exhaust hood. The Guardian III is limited to electric ranges up to 42" wide x 24" deep or gas ranges 36" wide x 24" deep. If your appliance is larger, a commercial fire suppression system is needed.</p> <p>This system will need to be designed by a NICET III certified professional or homeowner designed per IRC.</p> <p>*Note on building plan a fire sprinkler system or Guardian III system will be installed. A separate fire code permit will need to be submitted.</p>	<p>25% or 125 g.p.m. fire protection credit.</p>
<p>5.) An approved monitored fire alarm system.</p> <p>The installation of a compliant fire alarm system that is monitored by a UL licensed monitoring company, provides heat detectors, smoke detectors and audio notification throughout the residence and attached garage. Has buckup power for 24 hours in standby and 10 minutes in alarm. Is approved by the Fire Marshal Office. A combination fire/burglar system can be installed provided the fire alarm overrides the burglar alarm.</p> <p>*Note on building plan a fire alarm system will be installed. A separate fire code permit will need to be submitted.</p>	<p>25% or 125 g.p.m. fire protection credit.</p>
<p>6.) Fire-rated sheetrock installed throughout structure and automatic door closure for attached garage.</p> <p>Type X sheetrock, (5/8" thickness) installed on all walls and ceilings throughout the structure and an automatic door closure on the door from the living quarters to the attached garage.</p> <p>*Note on building plans that Type X 5/8 Sheetrock will be installed throughout structure.</p>	<p>50% or 250 g.p.m. fire protection credit.</p>

<p>7.) Class (A) or (B) Non-Combustible Roof Covering.</p> <p>Examples of Class A roofing materials include: Fiberglass reinforced asphalt shingles, tile, clay tile, concrete, brick, slate, metal roofing and fiber cement shingles. Class A materials generally need an underlayment of additional materials to give it the A rating.</p> <p>Examples of Class B roofing materials include: Pressure-treated shakes and shingles.</p> <p>*Note on building plans the class of roofing materials being installed.</p>	<p>25% or 125 g.p.m. fire protection credit.</p>
<p>8.) Create defensible space within 30 feet (30') around the structure. Use of fire resistant landscaping plants and vegetation.</p> <p>A defensible space is an area where combustible material, including vegetation, has been treated, cleared or modified to slow the rate and intensity of an advancing fire and to create a safer area for fire suppression operations to occur.</p> <p>For additional information see the FEMA link below: https://www.fema.gov/sites/default/files/documents/fema_marshall-fire-mat-homeowners-guide-defensible-space.pdf</p> <p>*A site plan needs to be submitted showing defensible space and planting identification which will include plant type.</p>	<p>25% or 125 g.p.m. fire protection credit.</p>
<p>9.) Ignition-resistant construction in accordance with the International Urban Wildland Interface Code.</p> <p>Chapter 5 Section 503-506 of the International Urban Wildland Interface Code lists the classes of Ignition Resistant Construction that can be applied to the structure. There are three (3) classes available to choose from however be aware that the class chosen for your residence also requires additional protection be provided for items such as eaves, vents, exterior doors, decks, etc. A copy of the code is available in our office for your review.</p> <p>*Note on building plans type of construction classification/type being installed.</p>	<p>25% or 125 g.p.m. fire flow credit</p>

10.) Modified fire wall between an attached garage and the living spaces is installed with: Automatic door closure with solid core or 1-hour-rated door; Latched on all openings in ceiling of garage; Ceiling openings to be 22-inches by 36-inches minimum, to allow firefighter access; Fire-rated sheetrock, both sides of wall, from roof sheathing in attic to floor; penetrations sealed airtight.

If you have a living space above the garage a one hour floor/ceiling assembly needs to be installed.

Exception: if a fire wall is installed between the garage and living space the overall square footage can be reduced. The reduction can be accomplished by subtracting 25% of the garage area, exclusive of any living space above, from the total building square footage. If the building square footage is under 5,000 with the reduction, then no other fire protection credits is needed.

***Note on building plans construction of modified fire wall per credit 10 and floor/ceiling assembly for living space above.**

25% or 125 g.p.m. fire flow credit.

25% of the square footage of the garage shall be subtracted from the total residential dwelling size to Determine need for fire flow or fire protection credits.