



# Coffee Break Training - Fire Protection Series

## Access and Water Supplies: Fire Flow: An Introduction

No. FP-2013-36 September 3, 2013

**Learning Objective:** The student will be able to describe the purposes of computing fire flow values.

Today, we begin a multiple-week series on fire flow. There are few topics in the fire service that generate as much discussion as water supplies for fire protection.

How much water is enough?

There is no single “correct” method for establishing fire flow in the structural fire protection world; the overall objective is to provide enough water effectively at the right place to suppress the heat energy released by the fire and protect exposures. The availability of the water supply and the fire department’s pumping capacity to deliver flow may be the limiting factors.



Fire flow is the amount of water needed to extinguish a fire and protect exposures.

Several mathematical formulas exist to determine water supply requirements. Some of these formulas are intended to be applied during building construction, calculated during preincident planning exercises, or assessed for insurance underwriting purposes, and others are intended to be quick references for an Incident Commander confronted with an emergency. We will cover the variety of formulas and their results in upcoming Coffee Break Training segments.

Fire flow sources may be dynamic (municipal or private water systems, water tenders, elevated tanks) or static (ponds, lakes, reservoirs, underground tanks or seashores). Regardless of the source, there must be adequate water to extinguish a fire, or the fire likely will consume all combustibles in its path.

The U.S. Fire Administration offers a comprehensive, two-part report titled “Water Supply Systems and Evaluation Methods.”

- “Volume I: Water Supply Systems Concepts” discusses water system anatomy, water distribution system design concepts, water quality, consumer consumption and needed fire flow, alternative water supply systems, fire department water supply officer, water supply and effective fire protection, and emergency water supplies.
- “Volume II: Water Supply Evaluation Methods” covers the evaluation of municipal water supply systems, water system hydraulics, storage capacity, water supply system computer modeling, and establishing a community program to document effective water supplies for fire protection.

Both volumes are available free at <http://1.usa.gov/12t0TDQ>.



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