

# About ISO

ISO is a leading source of information about property/casualty insurance risk. For a broad spectrum of commercial and personal lines of insurance, we provide statistical, actuarial, underwriting, and claims data; policy language; information about specific locations; fraud-identification tools; consulting services; and information for marketing, loss control, and premium audit.

ISO collects information useful in many aspects of insurance underwriting. That information includes evaluations of public fire protection, flood risk, and the adoption and enforcement of building codes in individual communities. Information on municipal services helps the communities with their efforts to manage and mitigate their risk.

Through the [Public Protection Classification \(PPC™\) program](#), ISO evaluates municipal fire-protection efforts in communities throughout the United States. A community's investment in fire mitigation is a proven and reliable predictor of future fire losses. So insurance companies use PPC information to help establish fair premiums for fire insurance — generally offering lower premiums in communities with better protection. Many communities use the PPC as a benchmark for measuring the effectiveness of their fire-protection services. The PPC program is also a tool that helps communities plan for, budget, and justify improvements.

Through the [Building Code Effectiveness Grading Schedule \(BCEGS®\) program](#), ISO assesses the building codes in effect in individual communities and how those communities enforce their building codes. The assessments place special emphasis on mitigation of losses from natural hazards. The concept is simple: municipalities with well-enforced, up-to-date codes should demonstrate better loss experience, and insurance rates can reflect that. The prospect of lessening catastrophe-related damage and ultimately lowering insurance costs provides an incentive for communities to enforce their building codes rigorously — especially as they relate to windstorm and earthquake damage.

---

## What is the PPC program?

ISO collects information on municipal fire-protection efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data using our Fire Suppression Rating Schedule (FSRS). We then assign a Public Protection Classification from 1 to 10. Class 1 generally represents superior property fire protection, and Class 10 indicates that the area's fire-suppression program doesn't meet ISO's minimum criteria.

By classifying communities' ability to suppress fires, ISO helps the communities evaluate their public fire-protection services. The program provides an objective, countrywide standard that helps fire departments in planning and budgeting for facilities, equipment, and training. And by securing lower fire insurance premiums for communities with better public protection, the PPC program provides incentives and rewards for communities that choose to improve their firefighting services.

ISO has extensive information on more than 47,000 fire-response jurisdictions.

## How the PPC™ Program Works

The PPC™ program provides important, up-to-date information about municipal fire-protection services throughout the country. ISO's expert staff collects information about the quality of public fire protection in more than 44,000 fire districts across the United States. In each of those fire districts, ISO analyzes the relevant data and assigns a Public Protection Classification — a number from 1 to 10. Class 1 generally represents superior property fire protection, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria.

Virtually all U.S. insurers of homes and business property use ISO's Public Protection Classifications in calculating premiums. In general, the price of insurance in a community with a good PPC is substantially lower than in a community with a poor PPC, assuming all other factors are equal.

A community's PPC depends on:

- fire alarm and communication systems, including telephone systems, telephone lines, staffing, and dispatching systems

- the fire department, including equipment, staffing, training, and geographic distribution of fire companies
- the water-supply system, including the condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires

## Benefits of the PPC™ Program for Communities

The PPC™ program recognizes the efforts of communities to provide fire-protection services for citizens and property owners. A community's investment in fire mitigation is a proven and reliable predictor of future fire losses. So insurance companies use PPC information to help establish fair premiums for fire insurance — generally offering lower premiums in communities with better protection. By offering economic benefits for communities that invest in their firefighting services, the program provides a real incentive for improving and maintaining public fire protection.

The program also provides help for fire departments and other public officials as they plan for, budget, and justify improvements.

But the most significant benefit of the PPC program is its effect on losses. Statistical data on insurance losses bears out the relationship between excellent fire protection — as measured by the PPC program — and low fire losses. By helping communities prepare to fight fires effectively, ISO's PPC program saves lives.

## The PPC™ Evaluation Process

To determine a community's Public Protection Classification (PPC™), ISO conducts a field survey. Expert ISO staff visit the community to observe and evaluate features of the fire-protection systems. Using a manual called the Fire Suppression Rating Schedule (FSRS), ISO objectively evaluates three major areas:

- **fire alarm and communications systems**  
A review of the fire alarm system accounts for 10% of the total classification. The review focuses on the community's facilities and support for handling and dispatching fire alarms.

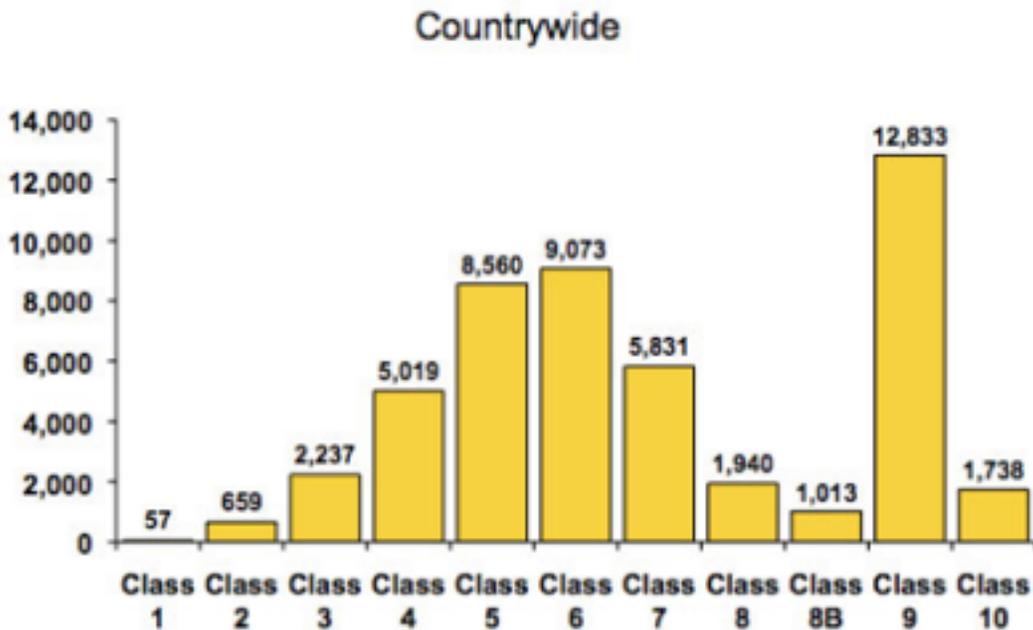
- **fire department**

A review of the fire department accounts for 50% of the total classification. ISO focuses on a fire department's first-alarm response and initial attack to minimize potential loss. Here, ISO reviews such items as engine companies, ladder or service companies, distribution of fire stations and fire companies, equipment carried on apparatus, pumping capacity, reserve apparatus, department personnel, and training.

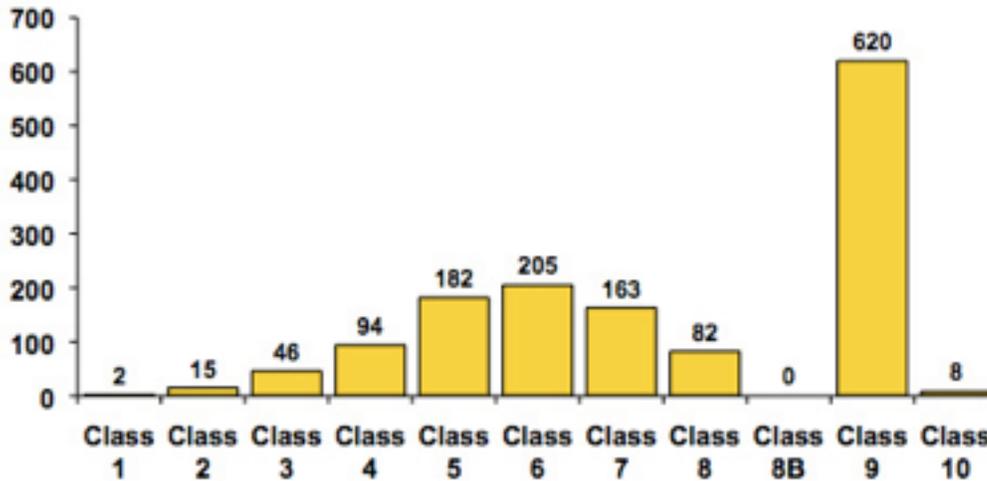
- **water supply**

A review of the water-supply system accounts for 40% of the total classification. ISO reviews the water supply a community uses to determine the adequacy for fire-suppression purposes. We also consider hydrant size, type, and installation, as well as the inspection frequency and condition of fire hydrants.

After completing the field survey, ISO analyzes the data and calculates a PPC. The grading then undergoes a quality review. The community will receive a notification letter identifying the new PPC. ISO also provides a hydrant-flow summary sheet, along with the classification details and improvement statements. The classification details summarize each subcategory and indicate the total points the community earned. The improvement statements indicate the performance needed to receive full credit for the specific item in the Schedule, as well as the quantity actually provided.



## Arkansas



The Fire Suppression Rating Schedule (FSRS) is a manual containing the criteria ISO uses in reviewing the firefighting capabilities of individual communities. The schedule measures the major elements of a community's fire-suppression system and develops a numerical grading called a Public Protection Classification (PPC™).

## FSRS/Fire Suppression Rating Schedule Overview

The FSRS incorporates nationally accepted standards developed by such organizations as the National Fire Protection Association (NFPA) and the American Water Works Association (AWWA). When those organizations update their standards, the ISO evaluation changes as well. So, the PPC program always provides a useful benchmark that helps fire departments and other public officials measure the effectiveness of their efforts — and plan for improvements.

---

### How the FSRS works

The FSRS lists a large number of items (facilities and practices) a community should have to fight fires effectively. The Schedule assigns

credit points for each item. Using those credit points and various formulas, ISO calculates a total score on a scale of 0 to 100.

To receive certain PPC ratings, a community must meet minimum criteria. After a community meets those criteria, the PPC rating depends on the community's score on the 100-point scale. For more information, see:

- [Minimum facilities and practices to get a PPC rating](#)
- [Minimum criteria for Class 9](#)
- [Minimum criteria for Class 8B](#)
- [Minimum criteria for Class 8 or better](#)
- [Scores and PPC ratings](#)

The FSRS considers three main areas of a community's fire-protection program:

### **Fire alarms**

Ten percent of a community's overall score is based on how well the fire department receives and dispatches fire alarms. Our field representatives evaluate:

- the communications center, including the number of operators at the center
- the telephone service, including the number of telephone lines coming into the center
- the listing of emergency numbers in the telephone book
- the dispatch circuits and how the center notifies firefighters about the location of the emergency

### **Fire department**

Fifty percent of the overall score is based on the fire department. ISO reviews the distribution of fire companies throughout the area and checks that the fire department tests its pumps regularly and inventories each engine company's nozzles, hoses, breathing apparatus, and other equipment. ISO also reviews the fire-company records to determine things such as:

- type and extent of training provided to fire company personnel
- number of people who participate in training
- firefighter response to emergencies
- maintenance and testing of the fire department's equipment

## **Water supply**

Forty percent of the overall score is based on the community's water supply. This part of the survey focuses on whether the community has sufficient water supply for fire suppression beyond daily maximum consumption. ISO surveys all components of the water-supply system, including pumps, storage, and filtration. We observe fire-flow tests at representative locations in the community to determine the rate of flow the water mains provide. We also review the condition and maintenance of fire hydrants. Last, we count the distribution of fire hydrants no more than 1,000 feet from the representative locations.

## **Minimum Facilities and Practices to Get a PPC™ Rating**

Before a community can receive an ISO Public Protection Classification (PPC™), the community must have at least these minimum facilities and practices:

### **Organization**

The community must have a fire department organized permanently under applicable state or local laws. The organization must include one person responsible for the operation of the department, usually with the title of "chief."

The fire department must serve an area with definite boundaries. If a community does not have a fire department operated solely by or for the governing body of that community, the fire department providing such service must do so under legal contract or resolution. When a fire department's service area involves more than one community, each of the communities served should have a contract.

### **Membership**

The department must have sufficient membership to assure the response of at least four members to structure fires. The chief may be one of the responding members.

### **Training**

The fire department must conduct training for active members, at least two hours every two months.

### **Alarm notification**

Alarm facilities and arrangements must be such that there is no delay in the receipt of alarms and the dispatch of firefighters and apparatus.

## Apparatus

The department must have at least one piece of apparatus meeting the general criteria of National Fire Protection Association (NFPA) Standard 1901, Automotive Fire Apparatus.

## Housing

The department must house apparatus to provide protection from the weather.

If the community does not meet these minimum criteria, ISO will assign the community a Class 10.

## Minimum Criteria for Class 9

To receive a Public Protection Classification (PPC™) of Class 9, a community must first have the [minimum facilities and practices needed to get a PPC rating](#). The community must have at least one piece of apparatus with a pump capacity of 50 gpm at 150 psi and at least a 300-gallon water tank. The community must also earn a score of at least 70 credit points on the following items from the Fire Suppression Rating Schedule (FSRS):

### Records

---

Records must indicate the date, time, and location of fires; the number of responding members; the number of training sessions; and maintenance of apparatus and equipment. Each community must also keep an up-to-date roster of fire department members. **10 points prorated**

### Equipment

---

#### **The community must also provide the following equipment:**

---

At least two 150-foot lengths of 3/4-inch or 1-inch fire department booster hose and a 1-1/2-inch preconnected hose, or the equivalent, each with a nozzle capable of discharging either a spray or straight stream. **15 points each**

Two portable fire extinguishers suitable for use on Class A, B, and C fires. The minimum size should be 20-BC rating in dry chemical, 10-BC rating in CO<sub>2</sub>, and 2A rating in water-type extinguishers. **4 points**

---

One 12-foot ladder with folding hooks	<b>10 points</b>
One 24-foot extension ladder	<b>15 points</b>
One pick-head axe	<b>1 point</b>
Two electric hand lights	<b>4 points</b>
One pike pole	<b>2 points</b>
One bolt cutter	<b>2 points</b>
One claw tool	<b>1 point</b>
One crowbar	<b>1 point</b>

ISO will reduce the total score by 2 points for each 10% that the apparatus exceeds the manufacturer's gross vehicle weight rating.

Note: Apparatus weighing more than the street or bridge loading maximums may cause a reduction in the credit for response area.

All the criteria, specifications, and tools listed above are important in establishing Class 9 protection. However, the specific size and nomenclature of each individual subitem may be subject to local conditions in the graded community. ISO may credit equipment having other names, or different dimensions, than indicated in the apparatus specifications.

## Minimum Criteria for Class 8B

Class 8B is a Public Protection Classification (PPC™) for communities that provide superior fire-protection services and fire alarm facilities but lack the water supply required for a PPC of Class 8 or better.

To compensate for limited water supplies, many communities have improved their firefighting equipment, training, and management techniques, as well as their fire alarm systems. Class 8B will recognize those improvements.

### **How it works**

To be eligible for Class 8B, a community must meet the fundamental

requirements for a classification better than Class 9. The community must have:

- an adequate number of well-organized and properly trained firefighters
- reliable fire alarm facilities
- adequate fire station facilities
- operational records

However, the community does not need to meet the water-supply requirement of 250 gpm for two hours necessary for PPC Class 8 or better.

## Minimum Criteria for Class 8 or Better

To receive a Public Protection Classification (PPC™) of Class 8 or better, a community must first have the [minimum facilities and practices needed to get a PPC rating](#) and must earn a [score](#) of at least 20 points when evaluated according to the criteria in the [Fire Suppression Rating Schedule](#). In addition, the community must have these additional minimum facilities:

- There must be a minimum water supply of 250 gpm for a two-hour duration for fire protection in the area.  
  
If the fire department delivers the 250 gpm through tanker shuttle, large-diameter hose, or other alternative water supply, the water must be available within five minutes of the arrival of the first-due apparatus, and the department must maintain the flow, without interruption, for the two-hour duration.
- The fire department must have at least one piece of suitably equipped apparatus with a pump of at least 250-gpm capacity rated at 150 psi.

## Scores and PPC™ Ratings

The Fire Suppression Rating Schedule (FSRS) lists a large number of items a community should have to fight fires effectively. The Schedule assigns credit points for each item. Using those credit points and

various formulas, ISO calculates a total score on a scale of 0 to 100. For information on the relationship between credit points and scores on the 100-point scale, see ISO's [relative-value tables](#).

To receive certain Public Protection Classification (PPC™) ratings, a community must meet minimum criteria:

- [Minimum facilities and practices to get a PPC rating](#)
- [Minimum criteria for Class 9](#)
- [Minimum criteria for Class 8B](#)
- [Minimum criteria for Class 8 or better](#)

After a community meets those criteria, the PPC depends on the community's score on the 100-point scale:

<b>PP C</b>	<b>Points</b>
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0.00 to 9.99

---

## Items Considered in the FSRS

The Fire Suppression Rating Schedule (FSRS) measures the major elements of a community's fire-suppression system and develops a numerical grading called a Public Protection Classification (PPC™). Here's an outline of the items considered in the FSRS and the percentage weighting of each item in the calculation that leads to a PPC rating.

### **Receiving and handling of fire alarms**

---

Receipt of fire alarms by commercial telephone — ISO compares the number of telephone lines provided with the number of telephone lines needed for emergency and business calls. The number of needed lines depends on the population served by the communication center. ISO also evaluates telephone directory listings. **2%**

---

Operators — ISO compares the number of fire alarm operators provided with the number of operators needed. The number of needed operators depends on whether the community is meeting its performance standards with existing operators for receiving and dispatching alarms. Alternatively, if performance data is unavailable, the number of needed operators is based upon the number of alarms received. **3%**

---

Alarm dispatch circuits — All fire departments (except for single-station departments with full-time personnel receiving alarms directly at the station) need adequate means of notifying personnel of fire locations. ISO evaluates the type and arrangement of those facilities. **5%**

---

***Receiving and handling of fire alarms total: 10%***

### **Fire department**

---

Pumpers — ISO compares the number of in-service pumpers and the equipment carried with the number of needed pumpers and the equipment identified in the FSRS (or equivalency list). The number of needed pumpers depends on the Basic Fire Flow, the size of the area served, and the method of operation.	<b>10%</b>
Reserve pumpers — ISO evaluates the adequacy of the pumpers and their components with one (or more in larger communities) pumper out of service.	<b>1%</b>
Pump capacity — ISO compares the pump capacity of the in-service and reserve pumpers (and pumps on other apparatus) with the Basic Fire Flow. ISO considers a maximum Basic Fire Flow of 3,500 gpm.	<b>5%</b>
Ladder/service — Communities use ladders, tools, and equipment normally carried on ladder trucks for ladder operations, as well as for forcible entry, utility shut-off, ventilation, salvage, overhaul, and lighting. The number and type of apparatus depend on the height of the buildings, needed fire flow, and the size of the area served.	<b>5%</b>
Reserve ladder and/or service — ISO compares the adequacy of ladder and service apparatus when one (or more in larger communities) apparatus is out of service.	<b>1%</b>
Distribution of companies — ISO credits the percentage of the community within specified response distances of pumpers (1-1/2 miles) and ladder/service apparatus (2-1/2 miles).	<b>4%</b>
Company personnel — ISO credits the personnel available for first alarms of fire. For personnel not normally in the fire station (for example, volunteers), ISO reduces the value of the responding members to reflect the delay due to decision, communication, or assembly. ISO then applies an upper limit for the credit for manning, as it is impractical for a very large number of personnel to operate a piece of apparatus.	<b>15%</b>

---

Training — Trained personnel are vital to a competent fire-suppression force. ISO evaluates training facilities and their productivity; training at fire stations; training of fire officers, drivers, and recruits; and building familiarization and prefire planning inspections.	<b>9%</b>
---	-----------

---

***Fire department total: 50%***

### **Water supply**

---

Adequacy of water supply — ISO compares the available water supply at representative community locations with the needed fire flows for those locations. The supply works, the water main capacity, or fire hydrant distribution may limit the available supply.	<b>35%</b>
--	------------

---

Hydrants: size, type, and installation — ISO evaluates the design capacity of fire hydrants.	<b>2%</b>
--	-----------

---

Hydrants: inspection and condition — ISO evaluates the frequency of fire hydrant inspection, the completeness of the inspections, and the condition of the hydrants.	<b>3%</b>
--	-----------

---

***Water supply total: 40%***

### **Divergence**

---

Divergence — An inadequate water supply may limit the ability of even the best fire department to suppress fires. Similarly, an inadequate fire department may not be able to make effective use of an abundant water supply. So, if the quality of the fire department and the water supply are different, ISO adjusts the total score downward to reflect the limiting effect of the less adequate item on the better one.

---

***Survey total: 100%***