

Will A Sprinkler System Pay For Itself In Insurance Cost Savings ?

Properly engineered automatic sprinkler protection has many selling points including increased underwriting desirability, lower fire insurance rates or loss costs and, of course, superior fire protection. However, other things being equal, the owner's interest still comes down to how much is it going to cost me? Will the sprinklered system actually pay for itself in insurance premium savings?

The Specific Commercial Property Evaluation Schedule (SCPES) of the Insurance Services Office (ISO) does include provisions for rating both properties protected with automatic sprinklers and non-sprinklered properties. Sprinklered rates or loss costs will vary based upon several factors including construction type, occupancy hazards and whether the sprinkler system is supervised and has central station, remote, proprietary or local alarm service and whether the water supply is a single or dual source. The standard sprinkler system is assigned a grading of 100 points. Any deficiencies from standard are deducted from those 100 points and affect the rate or loss cost accordingly. A typical metal building system is assumed to have a standard single source water supply sprinklers system for purposes of illustration and will be assigned a grading of 90. Also, for this example, it is assumed that only local alarm service is provided.

If we then compare the metal building system examples used in Bulletin No. 5¹ with the same building sprinklered, we have the following:

¹Insurance Bulletin No. 5 - What effect does exterior wall construction column protection have on insurance rates or loss costs?

Building	Building Loss Cost		Contents Loss Cost	
	Non-Sprinklered	Sprinklered	Non-Sprinklered	Sprinklered
Metal building system (glass fiber insulation or composite foam core assemblies meeting slow burning requirements)	1.08	0.285	1.400	0.373
Metal building system with 1- or 2-hour fire-resistive wall construction	0.39	0.154	0.692	0.220
Metal building system with unprotected or unlisted foam core panels	1.55	0.370	1.605	0.475

Let's now assume values for these buildings and contents and compare annual premium costs.

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Building	Building Value	Contents Value	Non-Sprinklered Premium	Sprinklered Premium	Annual Premium Savings
Metal building system (glass fiber insulation or composite foam core assemblies meeting slow burning requirements)	\$750,000	\$400,000	\$13,700	\$ 3,630	\$10,070
Metal building system with 1- or 2-hour fire resistive wall construction	\$750,000	\$400,000	\$5,693	\$2,035	\$3,658
Metal building system with unprotected or unlisted foam core panels	\$750,000	\$400,000	\$18,045	\$4,675	\$13,370

Now using average sprinkler installation costs, the years to pay out would approximate the following:

Building	²Sprinkler Costs	Annual Premium Savings	Years To Pay Out
Metal building system (glass fiber insulation or composite foam core assemblies meeting slow burning requirements)	\$31,250	\$10,070	3 ½
Metal building system with 1- or 2-hour fire resistive wall construction	\$31,250	\$3,658	8 ½
Metal building system with unprotected or unlisted foam core panels	\$31,250	\$13,270	2 ½

Of course, the years to pay out would depend on other factors such as method of financing, interest rates, depreciation method, taxes, etc., but the sample does show that sprinkler protection will “pay for itself” in reasonable periods of time for some cases involving metal building systems. In other cases, sprinkler protection must be justified by the increased protection of assets.

These comparisons are based on generally applied insurance evaluation principles as of the date of publication. Some local building and/or fire codes require sprinkler systems in certain structures. The building owner's design professional must determine and specify applicable local requirements.

For purposes of this example, we have assumed the internal sprinkler system to cost \$1.25/per square foot. These costs may vary somewhat and can be materially higher in locations with poor public water supply. Costs are for the internal portion of the sprinkler system. To this, the cost of connection to the public water supply would be added.

The inclusion of sprinkler protection can be a valuable sales tool for the metal building dealer.

²These costs could be materially higher in locations with poor public water supply.

Additional Information:

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