CITY OF DOVER, DELAWARE

FIRE MARSHAL'S OFFICE

HOME FIRE SPRINKLERS

Simple. Discreet. Low-maintenance. Life-saving.



Can you spot it? The sprinkler is the small round cover in the ceiling at upper right.

2,920	8,920	89% LOWER	48% LOWER
civilian deaths in U.S. home fires during 2024	civilian injuries in U.S. home fires during 2024	civilian death rate in reported home fires with sprinklers	firefighter injury rate in reported home fires with sprinklers

Sprinklers also reduced average property loss by 55% and confined fire to the object or room of origin in 96% of reported home fires, compared with 72% without an automatic extinguishing system. Sources are listed on page 4.

HOW THE CODE IS DEVELOPED, ADOPTED AND APPLIED

The International Code Council developed the 2024 International Residential Code (IRC) through an open governmental consensus process involving building and fire officials, architects, engineers, builders, manufacturers and other stakeholders. Dover City Council decides whether to adopt it locally, with Dover-specific amendments, through the public ordinance process. Dover's residential-sprinkler provision applies to newly constructed one- and two-family dwellings and townhouses; it does not create a blanket retrofit requirement for existing homes.

A home fire sprinkler system is a small network of water-filled piping and listed residential sprinkler heads designed under the 2024 IRC and installed in accordance with IRC Section P2904 or NFPA 13D. Its life-safety purpose is to control a fire early—before heat and toxic smoke make escape impossible.

Why home fire sprinklers are needed

SAVE LIVES	PROTECT PROPERTY	KEEP FIREFIGHTERS SAFER
Early control preserves escape time before heat and toxic smoke become deadly.	Keeping the fire small limits flame, smoke and water damage throughout the home.	A smaller, cooler fire creates safer conditions for rescue and fire attack.

They do not replace the fire department. They control the fire early, keep it small and limit its spread—giving occupants more time to escape and giving arriving firefighters safer conditions and a better opportunity to save lives and property.

What it is—and what it is not

HOW IT WORKS

- Fire heat—not smoke, steam or cooking vapors—activates the sprinkler.
- Each sprinkler operates independently; only the sprinkler nearest the fire normally opens.
- Water is applied directly to the growing fire while occupants escape and firefighters respond.
- Smoke alarms are still essential: alarms warn; sprinklers control.

WHAT IT IS NOT

- It is not the movie myth in which every sprinkler in the house opens at once.
- It is not a high-pressure commercial deluge system.
- It is not activated by a smoke alarm.
- It does not replace smoke alarms, an escape plan, or calling 9-1-1.

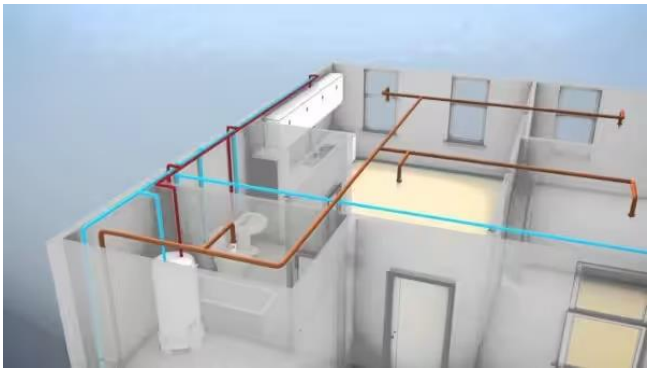
Residential heads can be nearly invisible



Common styles include flush concealed covers, pendent heads and sidewall heads. Finishes and colors can be coordinated with the room.

Installed while the house is open

1. **Design** — a trained, licensed fire-protection professional lays out the listed heads and verifies water flow and pressure.
2. **Rough-in** — approved piping is installed with other trades before insulation and drywall.
3. **Inspect and test** — piping is inspected before concealment, checked for leakage, and the completed system receives an acceptance test.
4. **Handover** — the owner receives the system instructions, valve location and testing information.



Like plumbing and wiring, the pipe is hidden behind the finished walls and ceilings.

NFPA 13D focuses protection on the home's living areas. The approved plan determines the exact locations and any permitted omissions.

Dover water: this guide assumes City water. The designer verifies lot-specific flow and pressure and coordinates any service or meter sizing needed for the approved design. No private-well or stored-water scenario is included.

Cost: a practical 1,500-ft² example

The most useful public number is a planning allowance—not a guaranteed bid. The house layout, measured water supply, number and style of heads, piping choice, service or meter needs, fees and local contractor market all affect the final price.

CURRENT 2026 PLANNING ESTIMATE

about $1.94/ft² × 1,500 ft²

≈ $2,900

This adjusts the latest completed national benchmark for inflation through July 2026. It is a transparent planning estimate—not a Dover contractor quote or an all-in project price.

SOURCE BASIS

$1.35/ft²

2013 study

The Fire Protection Research Foundation's 2013 study remains the latest completed national cost assessment. A new 2026 study is underway but has not yet produced a final national figure.

What could this add to a 30-year mortgage?

$2,900 PLANNING ESTIMATE	$3,000 ROUNDED ALLOWANCE
$18.69/month	$19.34/month

Illustration assumes the full sprinkler cost is financed for 360 months at 6.69%. Principal and interest only; an individual borrower's rate and payment will vary.

Early-budgeting takeaway: for a straightforward new 1,500-ft² home on adequate City water, roughly $3,000 plus project-specific fees and water-service items is a reasonable starting allowance. Obtain a written local bid before representing a final cost.

Why installation is economical in a new home

- Piping is installed before drywall, avoiding demolition and finish repair.
- Residential NFPA 13D design uses listed home sprinklers and lower water demand than commercial systems.
- Approved CPVC, PEX or other listed piping can speed installation.
- Dover municipal water avoids a private-well design scenario.
- Concealed cover plates can be selected during construction instead of added later.
- Good early trade coordination reduces changes and rework.

Very little day-to-day maintenance

HOMEOWNER ROUTINE

- Keep the sprinkler control valve open.
- Look occasionally for damage, leakage or blocked/painted heads.
- Do the simple flow test about twice a year, or hire the sprinkler contractor.

WHEN TO CALL A PROFESSIONAL

- After any sprinkler operates, the system has been shut down, or visible leakage or damage is found.
- Before remodeling, moving walls or ceilings, or working near sprinkler piping.
- Whenever the owner is unsure that the valve, test connection or system is working correctly.

City-water homes covered by this guide have no stored-water tank or well-pump maintenance. Keep the valve open, check visible parts, perform the flow test, protect wet piping from freezing, and never paint or hang objects from a sprinkler.

Straight answers to common questions

Will burned toast or shower steam set it off?	No. Residential sprinklers respond to fire heat, not smoke, steam or a smoke-alarm signal.
Will every sprinkler open?	No. Sprinklers operate independently. NFPA reports that one sprinkler operated in 85% of reported home fires where operating sprinklers were present.
Will it flood the whole house?	No. Water flows only from the activated sprinkler(s), directly over the fire. A fire-department hose generally delivers far more water because the fire is larger by the time crews attack it.
Will the heads look industrial?	They do not have to. Concealed ceiling and sidewall cover plates sit nearly flush and are available in finishes that blend with the room.
Does a sprinkler replace a smoke alarm?	No. Use both. Smoke alarms provide warning; sprinklers automatically control the fire and preserve escape time.
Does every room require a sprinkler?	NFPA 13D concentrates on living areas and permits omissions in certain spaces. The approved design—not a rule of thumb—sets the exact locations.
What about lightweight construction?	The IRC regulates engineered and lightweight components through structural requirements, passive protection, smoke alarms and sprinklers. Sprinklers support specific code alternatives—such as the floor-protection exception in Section R302.13—but do not by themselves authorize lightweight construction.
Will insurance be cheaper?	Possibly. USFA notes potential discounts, but insurers and policies differ. Ask the carrier for a written quote; no savings percentage is guaranteed.

The homeowner's five-minute checklist

- Know where the system valve and test connection are located.
- Verify the valve stays open; do not use it as a convenient shutoff.
- Keep furniture, drapes and storage from blocking sidewall or ceiling discharge.
- Tell painters never to paint a sprinkler or concealed cover plate.
- Before remodeling, call a licensed fire-protection contractor.
- Keep the installer's instructions and completed test records with the home.

QUESTIONS? TALK WITH US BEFORE THE PLANS ARE FINAL.

City of Dover Fire Marshal's Office • 15 Loockerman Plaza, Dover, DE 19901 • (302) 736-4457 • cityofdoverfmo@dover.de.us • www.cityofdover.com/fire-marshal

Sources and further reading

1. NFPA, U.S. Experience with Sprinklers (2024)
2. NFPA, Fire Loss in the United States (2024 data)
3. U.S. Fire Administration, Home Fire Sprinklers
4. Fire Protection Research Foundation, Home Fire Sprinkler Cost Assessment (2013 completed study; 2026 update underway)
5. Home Fire Sprinkler Coalition, Living With Fire Sprinklers
6. Home Fire Sprinkler Coalition, NFPA 13D and Home Life Safety
7. 2024 International Residential Code, Chapter 3 (Sections R302.13 and R309)
8. International Code Council, Code Development Process
9. U.S. Bureau of Labor Statistics, Consumer Price Index
10. Freddie Mac, Primary Mortgage Market Survey

Cost note: $2,900 is an inflation-only planning estimate derived from the Fire Protection Research Foundation's latest completed national benchmark ($1.35 per sprinklered square foot in 2013) using July 2026 CPI-U. A new Foundation study is underway, but no final 2026 national figure is available. Mortgage figures assume 360 months at Freddie Mac's 6.69% national average rate as of August 6, 2026 and show principal and interest only. Actual costs, rates and payments vary; obtain approved plans and local bids.