

# Blueproof™

fire protection for the safety of your home



Buys time **Saves lives**

[www.blueproof.co.uk](http://www.blueproof.co.uk)





## Research has shown that modern homes burn up to 8 times faster than the homes many of us grew up in.

If a house fire breaks out it is therefore essential that residents are able to escape as quickly as possible.

And while fire alarms are an effective way of alerting residents to a fire, they may not go off until more vulnerable inhabitants have been overcome by smoke - the biggest killer in any house fire.

Blueproof was designed by leading fire suppression engineers at Bluerad. By reactively delivering water where it is needed most, Blueproof reduces both the room temperature and smoke levels during a fire. This allows extra time for escape and for the emergency services to be called, which for some could mean the difference between life and death.

Designed to be an affordable, easy to install and fast acting solution for the domestic market, Blueproof is moving fire suppression forward.

**Stock Blueproof** and help your customers to buy time, and save lives.

# What is Blueproof?

Blueproof is a cost-effective fire suppression device designed to buy time and save lives.

Blueproof is screwed into the vent plug housing on a radiator. When a fire breaks out Blueproof reacts to the heat, melting to release a spray of water directly towards the fire from the central heating system.

This cools the temperature of the room sufficiently to reduce smoke and increase the chances of escape.

## Key Features

- Fits into domestic radiators or water supply pipes
- Self targets and fights the fire
- Made from advanced thermoplastic materials
- Chemical and corrosion resistant
- Non-toxic and taint free



# How it Works

A single radiator stores two times more water than is needed to suppress a fire.

With at least one radiator featuring in each room of a home, this is a useful existing resource that Blueproof uses to help tackle house fires.

If a fire breaks out the materials used to create Blueproof react to heat in a unique way, allowing the product to target water from the central heating system directly at the flames.

# 1

## Fire breaks out

The surface of Blueproof starts to heat and soften on exposure to fire.

# 2

## Blueproof expands

Driven by the radiator's rising internal water pressure in response to the heat, and the increasing temperature of the room, the surface of Blueproof starts to expand towards the greatest heat source.

# 3

## Stream forms

Continued softening and expansion forms a nozzle directed at the biggest source of heat. Internal water pressure forces a stream of water capable of reaching several metres through the nozzle and into the fire. The diaphragm in a combination system can provide additional pressure to drive the water.

# 4

## Self-targeting

This process of melting and expanding allows Blueproof to follow the fire, forming secondary streams should the fire move or new sources arise.

# Benefits

Blueproof has been independently witnessed and proven in full-scale building fires to deliver exceptional results. It has been demonstrated that when flames come close to Blueproof, or a full fire occurs, it activates faster than any other competitive product.

Additionally, thermal imaging has shown that Blueproof is able to successfully suppress a fire even with an open door that typically would cause flames to grow.

## When Blueproof Activates:

- Temperatures in excess of 250°C on activation fall throughout the building, including within the stairwell and on upper floors
- Temperature falls below 50°C at 1m above floor level in the room containing the fire
- Flash over is eliminated
- Oxygen levels are stabilised
- Smoke is reduced significantly

## Other Benefits:

There are a number of other benefits that make Blueproof an essential addition to your property:

- Extremely cost effective
- Quick and easy to fit with instructions for independent installation
- Does not require a power supply
- Flexible: can be installed horizontally or vertically

## Resources

If you are looking for more information on the impact of Blueproof we have a series of reports and results documents available on request. You will also find a collection of demonstration videos on the Bluerad LTD YouTube channel.

# Product Specifications

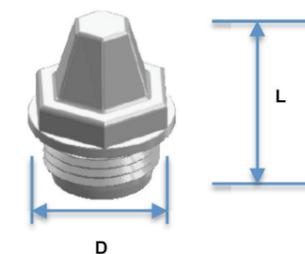
If you're considering Blueproof for your property, in depth details on the composition of the product, testing, compliances, maintenance, and product lifespan are featured below.

For further information, please contact us on 0115 906 1325.

## Dimensions

L Length	21m
D Diameter	25m
Weight Average	2 gramme
Flowrate (variable)	4 L/min at 3.5 bar *
Pressure	20 bar at 20 C
	20 bar at 75 C
Material	High tech Copolymer
"O"_Ring	Nitrile rubber

Dimensions with 909 O\_Ring



## Design Considerations

When designing a suppression system with Blueproof, you may need to know the following. Blueproof is:

- Compatible with both open and combination systems and small and large bore pipe work
- Made from impact-resistant thermoplastic materials
- Suitable for the expulsion of abrasive solutions – it will withstand the ejection of sludge deposits found in the bottom of radiators
- Protected from degradation as a result of UV radiation in sunlight
- Not magnetising, meaning it does not cause electrolytic deterioration
- Naturally thermally insulated due to polypropylene content
- Not light transmitting, ensuring the water quality of radiators is protected
- Not something that imparts any odour, taste, colour or any constituents in concentrations to water that could be hazardous to health

## Safety and Performance

Blueproof is tested to a number of safety and performance specifications. It is:

- Compliant with the EU directive 2001/95/EC and of the 3 December 2001 council on general product safety
- Pressure rated to exceed the requirements of BS EN 442
- Activated in half the time required for a sprinkler head during wind tunnel tests - BS EN 12259-1:1999 (Fixed firefighting systems – Components for sprinklers and water spray systems – Part 1: sprinklers) Annex N (normative) thermal response tests. Ref Bluerad BRE 25th June 2015  
ASTM E84, NFPA 255, UL 723 AND ULC S102.
- Tested to ISO 5660-1-2002 Reaction to fire tests. Heat release, smoke production and mass loss rate. Part 1: Heat release rate (Cone calorimeter method) International Organisation for Standardization, Geneva, 2002
- Tested in full-scale fire experiments to ISO TC 021 SC 05 N634 Fire Protection – Automatic Sprinkler Systems – Part 13 International Organisation for Standardization, Geneva, 2013 using the BRE 'ISO room' Ref Bluerad BRE 25th June 2014
- Pressure tested to BS EN 442 to failure and max temperature of 85°C
- Manufactured under a Quality Assurance Scheme to ISO 9001

## Warnings



**DO NOT** paint Blueproof under any circumstances. Covering the surface of Blueproof will make it unable to activate during a fire, which could prove lethal.



You must **NEVER** apply polishes, paints, or solvents, as they will prevent Blueproof from working properly.

## Product Lifespan

While Blueproof has a minimum lifespan of up to 5 years, it has been designed to last far longer; if kept out of direct sunlight it is possible Blueproof could last for up to 20 years.

We recommend, however, that Blueproof be inspected after 5 years. This allows you to ensure the mechanical properties of the material have not degraded, as this might reduce the effectiveness of its performance during a fire.

## Maintenance

Blueproof does not need any maintenance other than periodic dry dusting. To vent/bleed the radiator simply slacken Blueproof to allow air to escape.

## Testimonials



Of course we always hope we will never need to use them, as we do all we can alongside Nottinghamshire Fire and Rescue Service to prevent fire in our properties. But of course this isn't always possible and sometimes these events sadly do occur. If the Blueproof device can make a difference to just one person in the event of a fire, then that's one life worth saving.

**Ian Rabett**

Head of Health and Safety, Nottingham City Homes



When converting a house into flats I installed Blueproof instead of spending £20,000 on a staircase smoke extraction system. Blueproof does precisely what Bluerad said it would achieve. It's one of those things that, once you've seen it, it's a no brainer. Small and simple is the way to go.

**Mike Siebert**

Director, Ecological Homes



Safety is so important to any home, but when it came fire protection we weren't sure what more we could do beyond having a working fire alarm. Once we discovered Blueproof we couldn't believe more people didn't have it installed – it's so cheap, and we feel an awful lot safer knowing it's there.

**Elise Garforth**

Homeowner



I was told that to get approval on my loft conversion I would have to fit a sprinkler system. But on closer inspection of the law I learnt that you could match the requirements by fitting a fire suppression system. I looked into Blueproof but was unsure if I would get approval on the build. I called Bluerad and found out that others have had the same idea and in all similar cases Blueproof had been fitted and been approved. I was able to order and fit Blueproof myself to meet the guidelines and saved over £5,000 for all round better protection.

**Ross Walters**

Homeowner



# Price Comparison

	Blueproof™	Sprinkler system	Water mist sprinkler	Fine mist system	Fire extinguisher	Fire smoke alarm
Automatic	Y	Y	Y	Y	N	Y
Fire suppression	Y	Y	Y	Y	N	N
Smoke reduction	Y	N	N	N	N	N
Whole house cover	Y	Y	N	N	N	N
Cools whole building down	Y	N	N	N	N	N
Rapid installation	Y	N	N	Y	Y	Y
Discreet/Non disruptive	Y	N	N	N	Y	Y
Minimal water damage	Y	N	Y	Y	Y	Y
Typical price Installed*	£180 – £250 +	£3,500 – £9,000 +	£3,500 – £9,000 +	£2,000 – £7,000 +	£32 – £600	£5 – £400

\*Prices are guidelines per home (retrofit) and depend on the specific products used, economies of scale, and project complexity. Only Blueproof™ has no maintenance or power costs per year.

## Contact Us

If you are interested in stocking Blueproof, or would like some more information, please contact us.

**Call 020 7788 7774**

to be put in contact with our representatives in England, Scotland or Wales.

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[www.blueproof.co.uk](http://www.blueproof.co.uk)

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### Disclaimer

It is the responsibility of the person in charge of a property to take all the necessary steps to prevent injury to inhabitants. Information supplied in this leaflet is supplied only to provide an improved understanding of the technical aspects of Blueproof and, as far as the law allows, Bluerad will not accept liability for any loss or damage claimed as a result of reliance on this information.

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