PRODUCT BROCHURE

Stainless Steel
BUSHFIRE MESH®

SSWM Bushfire Mesh is certified and part of your solution for your Bushfire Protection

SHIELDS AGAINST THE 3 THREATS OF BUSHFIRE

SHIELD PROTECTION

EMBER ATTACK

RADIANT HEAT

DIRECT FLAME

2025

Bushfire Mesh stops combustible material entering your building cavities

SILVER MEMBER
FPA AUSTRALIA Fire Protection Association Australia

stainless steel
WIRE & MESH®

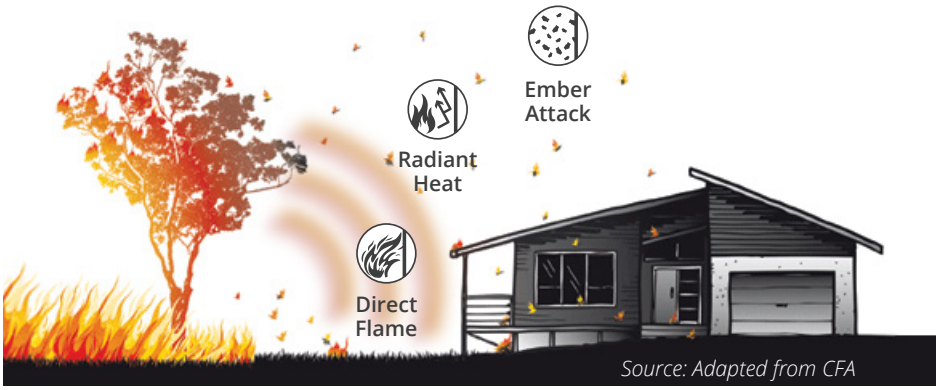
Shield protection against:
Ember attack, radiant heat & direct flame

Stainless Steel
BUSHFIRE MESH®

SHIELD PROTECTION

Introducing "Shield Protection", our exclusive technology behind Bushfire Mesh.

We've proven with independent testing under bushfire simulated conditions that the technology in Bushfire Mesh is your Shield that protects against the 3 threats of bushfire. Shield Protection demonstrates that it is a passive barrier that requires little or no maintenance to remain effective.



EMBER ATTACK

CATCHES, HOLDS & RELEASES EMBERS
80% of homes lost during a bushfire

Shields from **embers** by **catching** and **holding** dangerous embers and then **releasing** the embers once they are no longer a threat.

Designed and tested to withstand high temperatures (greater than 1000 °C) without melting or deteriorating.

It has been indendently tested by University of Southern Queensland (USQ), Effectiveness of Mesh against Ember Shower. Testing demonstrated that 98.5% of embers that pass Bushfire Mesh are no longer a threat.

When considering bushfire mesh for ember attack evaluate aperture x wire diamter:
- Ultimate 1.64 x 0.90mm
- Extreme 1.51 x 0.80mm
- Tough 1.67 x 0.45mm
- Flexi 1.23 x 0.18mm

RADIANT HEAT*

REFLECTS & ABSORBS RADIANT HEAT
10% of homes lost during a bushfire

Shields your property by **reflecting** and **absorbing** against **radiant heat.** Resulting in a lower temperature behind the barrier thereby protecting your building

Bushfire Mesh installed as protection in front of windows can be used to meet the requirements of AS 3959 for all BAL levels Low-FZ.

Bushfire Mesh range has been indepently tested by CSIRO to AS 1530.8.1. Research data demonstrates that our Bushfire Mesh range available in four (4) different products and each product, based on its specifications, can reduce radiant heat exposure by:

- ✓ Ultimate - 50% reduction (open area 42%)
- ✓ Extreme - 48% reduction (open area 43%)
- ✓ Tough - 35% reduction (open area 62%)

* Flexi - is not recommended as a protection for windows against Radiant Heat greater than 12 kW/m^2

DIRECT FLAME

DIFFUSES DIRECT FLAME
10% of homes lost during a bushfire

Shields your building by acting as a **barrier** and **diffusing** the **flame.** Lowering the temperature behind the shield to prevent material from igniting.

Bushfire Mesh acts as a shield in two ways to stop the flames from progressing:

- ✓ It deflects the hot flame away from the fuel source behind the mesh
- ✓ It lowers the temperature behind the mesh resulting in fuel source not igniting

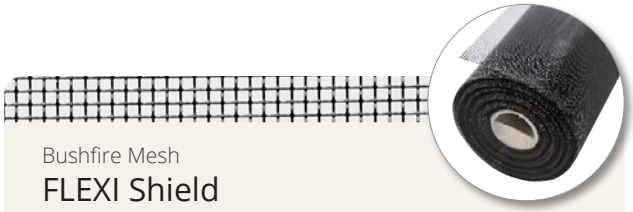
Bushfire Mesh has been independently tested by QAI and is certified to ASTM E2886. The testing demonstrated that no flaming ignition on the non-flame side (vertically). Temperature behind mesh less than 250°C.

* Flexi - is not recommended as a protection for direct flame.

Product range

Stainless Steel
BUSHFIRE MESH®

SSWM have a range of bushfire shield materials that exceed the requirements of AS 3959. We have protection that can meet your Building's Bushfire Attack Level (BAL) to deliver the performance you require. Our range of Bushfire Mesh Shield can be used for vents & weepholes, subfloor spaces and door & window protection against embers, flame and radiant heat. To determine the most appropriate product for your application start with your building BAL rating.



Bushfire Mesh
FLEXI Shield

FLEXI, a pliable, lightweight mesh that's easy to manipulate and can be cut with scissors. It's often referred to as insect mesh, boasting the smallest aperture in our product range at 1.23mm.

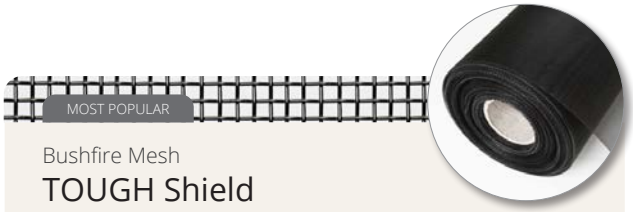
Requiring support, FLEXI is a popular choice for retrofitting existing fiberglass insect screens, available in 15 and 30 meter rolls across four different widths, providing flexibility to meet various needs.

Typically installed for **BAL Low to 12.5**

FROM 610 mm Width
30 m Length

● Black

ORDER ONLINE



MOST POPULAR

Bushfire Mesh
TOUGH Shield

Our highly popular TOUGH mesh, ideal for residential use, is easily shaped and maintains its form through memory recognition.

It can be cut with tin snips, is suitable for the widest range of applications and the most popular choice for subfloor protection.

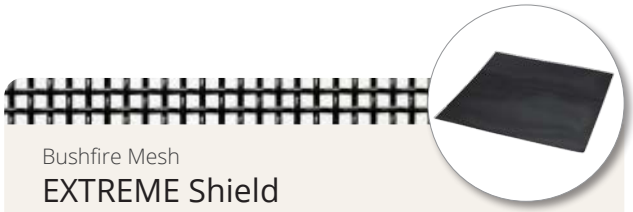
Typically installed for **BAL 12.5, 19, 29 & 40**

FROM 190 mm Width
30 m Length

INDEPENDENTLY CERTIFIED

● Black
● Stainless Steel

ORDER ONLINE



Bushfire Mesh
EXTREME Shield

EXTREME is a heavy-duty mesh with a dual role: a strong security barrier and a resilient bushfire protective shield. Its ability to withstand extreme heat and potential fire hazards makes it an ideal choice for areas prone to intense bushfires.

Typically installed in areas with Bushfire Attack Level (BAL) 40 to Flame Zone (FZ) ratings, EXTREME showcases exceptional strength even in the most extreme environmental conditions.

Typically installed for **BAL 40 & FZ**

FROM 750 mm Width
2,000 mm Length

INDEPENDENTLY CERTIFIED

● Black

LEARN MORE

Bushfire Mesh
ULTIMATE Shield

ULTIMATE, an industrial grade heavy mesh, is highly durable and renowned for its robustness. It serves as both a strong security barrier and a protective layer for bushfire defense.

It is often installed in BAL 40 to FZ areas, requiring tools like a grinder or guillotine for precise fitting. Conveniently available in 30-meter rolls with three width options, it offers flexibility to suit diverse project needs.

Typically installed for **BAL 40 & FZ**

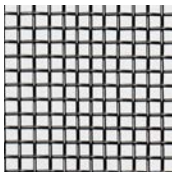
FROM 915 mm Width
30 m Length

INDEPENDENTLY CERTIFIED

● Stainless Steel

LEARN MORE

THE DIFFERENCE BETWEEN THE FINISHES



Black Powder Coat

- Often specified for residential use
- Absorbs the light and allows for excellent visibility
- Will not tea stain and requires less maintenance

Stainless Steel (Uncoated/raw)

- Often specified for industrial applications as matches ductware
- If being used for aesthetic purposes to minimise tea staining evaluate if the mesh should be pickled, passivated and electropolished

SSWM Bushfire Mesh
Part of your bushfire protection solution

Stainless Steel
BUSHFIRE MESH®

SSWM is Australia's leading innovator of Bushfire Mesh, with a range that exceeds the requirements of AS3959 - 2018 Construction of buildings in bushfire-prone areas.

Our Bushfire Mesh range is manufactured from stainless steel woven wire mesh. Available in a black powder coat and raw (uncoated stainless steel) that is corrosion resistant, making it incredibly strong and durable.

Bushfire Mesh is installed to protect against embers penetrating gaps within a home or building during a bushfire.

AS3959-2018

Various sections of AS3959 – 2018 requires a mesh to be used for screens or closing gaps greater than 3mm.

SSWM Bushfire Mesh Shield range has been independently verified by CSIRO and met the physical properties of AS3959 – 2018.

- ✓ Mesh with max aperture of 2mm
- ✓ Corrosion resistant steel
- ✓ Non combustible

BUSHFIRE ATTACK LEVEL (BAL)

SSWM Bushfire Mesh can be used to meet the requirements of AS3959 for BAL Low-FZ, where mesh is referenced and if the prescribed construction requirements are met.

The level of protection that you require can be determined by your BAL, consult with your Bushfire Practitioner to determine your BAL. Identify your BAL and applications (bushfire entry points that you need to protect) and then view our product range to select the most appropriate product for your project.

INDEPENDENTLY TESTED & CERTIFIED

Testing has been undertaken by the following independent organisations:

CSIRO, QAI, USQ, UL and IBHS.*

* *Bushfire Mesh Shield has been independently tested in Australia and the US.*

Testing has been completed for the 3 threats of Bushfire:

Ember Attack: ASTM E2886 & USQ Project 1007952

Radiant Heat: AS 1530.81

Direct Flame: ASTM E2886

MATERIAL MELTING POINT

Material	Melting Point	Tensile Strength	Corrosion Resistance
Stainless Steel	1500°C	550 MPa	✓✓✓
Bronze	1000°C	310 MPa	✓✓
Aluminium	600°C	90 MPa	✓

INSTALLATION IS EASY

- No specialty skills or tools are required
- Can be retrofitted to existing properties
- Installation is simple and quick
- Mesh comes in different widths & lengths and allows customisation to protect your space

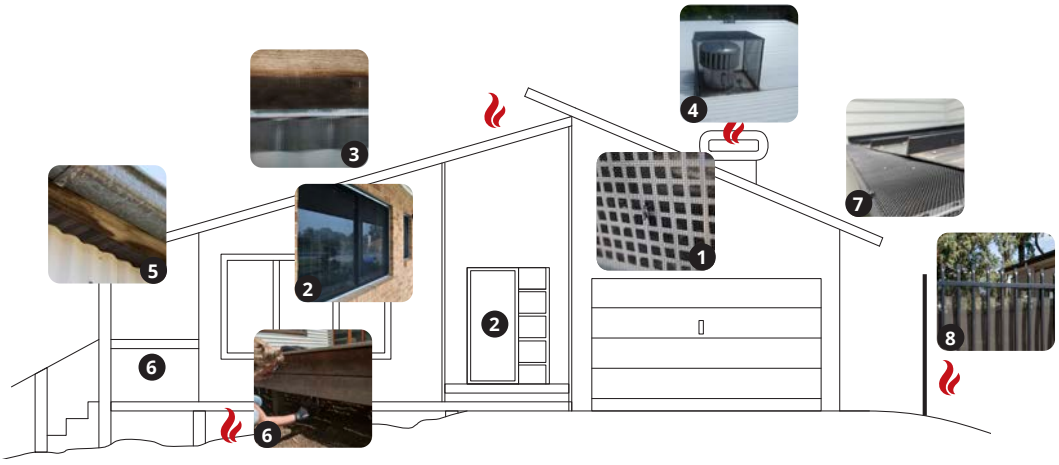
Download our 5 Step DIY Guide to assist you.

Installation of Bushfire Mesh TOUGH along exterior perimeter fence.

98.5% of embers that pass bushfire mesh are no longer a threat.

Applications

Stainless Steel
BUSHFIRE MESH®



A VERSATILE RANGE TO SUIT ANY APPLICATION

	FLEXI - Shield	TOUGH - Shield (MOST POPULAR)	EXTREME - Shield	ULTIMATE - Shield
	● Black	● Black / ● Stainless steel	● Black	● Stainless steel
	A malleable, soft and lightweight mesh that requires support	A firmer mesh which can be shaped and holds in place with memory recognition	A heavy duty mesh that doubles as a security mesh	Industrial heavy mesh that's durable
Vents & Weepholes 1	✓	✓		
Window & Door Screens 2	✓	✓	✓	
Roofs 3	✓	✓		
Evaporative Air Cooling Systems 4		✓	✓	✓
Eaves & Awnings 5	✓	✓		
Subfloor Spaces, Verandahs & Decks 6	✓	✓		
Gutter & Valley Leaf Guard 7		✓		
Perimeter Fence 8		✓		
Shelter in Place			✓	✓

**No impact on the ventiliation of sub-floors*

Product comparison & selection

Stainless Steel
BUSHFIRE MESH®

	FLEXI - Shield	TOUGH - Shield (MOST POPULAR)	EXTREME - Shield	ULTIMATE - Shield
EXCEEDS AS 3959	ORDER ONLINE **SSWOB 01230**	ORDER ONLINE **SSWOB 01670** **SSWO 01670**	**SSWOBS 01510**	**SSWO 01640**
BAL Low - FZ (typically installed)	Low, 12.5	12.5, 19, 29 & 40	40, FZ	40, FZ
Secondary Application	Insect Mesh	Pet Mesh	Security Mesh	Industrial Mesh
PRODUCT SPECIFICATIONS				
Price Indicator	$	$$	$$$	$$$$
Roll or Sheet / Cutting				
Finish	● Black (316)	● Black (316) ● Stainless Steel (304/316)	● Black (316)	● Stainless Steel (304/316)
Formabilty (handling)	Malleable - SOFT	Self Supporting - FLEXIBLE	Self Supporting - RIGID	Self Supporting - RIGID
Aperture x Wire Diameter	1.23 x 0.18 mm	1.67 x 0.45 mm	1.51 x 0.80 mm	1.64 x 0.90 mm
Open Area % *Pre black powder coat finish*	76 %	62 %	43 %	42%
QUALITY ASSURED	✔ Compliant	✔✔ Tested	✔✔✔ Certified	
AS 3959-2018 Compliant	✔	✔	✔	✔
CSIRO FCO-3313 Rev B Independently verified	✔	✔	✔	✔
AS/NZS 1530.3:1999 Ignitability	✔✔	✔✔	✔✔	
AS 2331 1.3.1 2001 Neutral Salt Spray Test		✔✔	✔✔	
AS 5041 2003 Knife Shear Test			✔✔	✔✔
SHIELD PROTECTION				
USQ Project 1007952 Ember Attack	✔✔	✔✔✔	✔✔✔	✔✔✔
AS 1530.8.1 Radiant Heat		✔✔	✔✔	✔✔
ASTM E2886 Direct Flame		✔✔✔	✔✔✔	✔✔✔
DIMENSIONS	W x L			
	610 mm x 30 m	190 mm x 30 m ✔	750 mm x 2000 mm	915 mm x 30 m
	915 mm x 15 m	610 mm x 30 m ✔	750 mm x 2400 mm	1245 mm x 30 m
	915 mm x 30 m	915 mm x 15 m ✔	900 mm x 2000 mm	1550 mm x 30 m
	1220 mm x 15 m	915 mm x 30 m ✔ ✔	900 mm x 2400 mm	
	1220 mm x 30 m	1245 mm x 15 m ✔	1200 mm x 2000 mm	
	1550 mm x 15 m	1245 mm x 30 m ✔ ✔	1200 mm x 2400 mm	
	1550 mm x 30 m	1550 mm x 15 m ✔	1500 mm x 2000 mm	
		1550 mm x 30 m ✔ ✔	1500 mm x 2400 mm	
		1830 mm x 30 m ✔		

Australian Standards:

SSWM bushfire mesh can be used to meet the requirements of AS3959-2018 for BAL 12.5 -FZ, where mesh is referenced and if the prescribed construction requirements are met.

Independently Verified:

SSWM Bushfire Shield Mesh range has been independently verified by CSIRO and met the physical properties of AS3959-2018.

✔ Mesh with max aperture of 2mm
✔ Corrosion resistant steel
✔ Non combustible

Testing summary

Stainless Steel BUSHFIRE MESH®

Our Bushfire Mesh range is the result of a decade-long commitment to excellence. With a focus on independent testing and strict adherence to Australian and international standards, we are confident in its ability to withstand the harshest conditions. Our testing verifies that our mesh protects against all 3 threats of a bushfire, which is why we say exceed AS 3959.

Independent testing partners.

Bushfire Test & Standards

Aperture Dimensions
AS 3959 - 2018

Non Flammable Material
AS 1530.1-1994

Mechanical Test

Impact Resistant
AS 5039 2008

Stainless Steel Woven Mesh Standards

SS Chemical Composition
ASTM 580/A580M- 18

SS Woven Cloth
ASTM E2016-22

Corrosion Test

SS Corrosion Resistance
AS/NZS 2331.3.1 2001

SHIELD PROTECTION

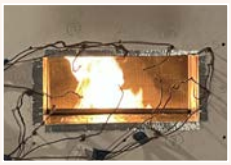
Ember Attack

Ember Effectiveness
University of Southern Queensland (USQ)
Report No: Project 1007952

Radiant Heat

AS 1530.8.1
CSIRO
Report No: EP116738

Direct Flame



ASTM E2886
QAI Laboratories
ISO Accredited 17025
Report No: RJ8845

Independent Testing demonstrates Bushfire Mesh shields against the 3 threats of bushfires

✓✓ Bushfire Mesh is your shield that **catches**, **holds** dangersous **embers** & **releases** these embers when they are no longer a threat. 98.5% of embers that pass are no longer a threat.

✓✓ Bushfire Mesh reduces **radiant heat** transfer by **reflecting** & **absorbing**
Ultimate 50% reduction
Extreme 48% reduction
Tough 35% reduction

✓✓✓ Bushfire Mesh acts as a barrier and **diffuses** the **flame**. No flaming ignition on the non-flame side (vertically). Temperature behind mesh less than 250°C.

✓✓ *Tested* ✓✓✓ *Certified*

Refer to Technical Data Sheets for Specific Testing

Bushfire Mesh complies with the following regulators and stakeholders requirements in combating the threat of bushfires.

- Building Council of Australia for AS 3959 - 2018 Building in a Bushfire Prone Area
- California Building Code Chapter 7A, ASTM E2886 Flame Impingement Test (Vertical)
- International Wildland-Urban Interface Code (IWUI)
- International Association of Wildland Fire (IAWF)
- CSIRO
- IBHS (U.S.)
- Wildfire Prepared Home
- Rural Fire Service NSW

stainless steel WIRE & MESH

The Lasting Decision

Stainless Steel
BUSHFIRE MESH®

WHAT THE EXPERTS SAY ABOUT EMBER PROTECTION

A Fine metal mesh screen is a really good choice, something like stainless is going to give you a really good design life but it is also particularly strong even if the wire gauges is very fine. 2mm or smaller aperture between the strands of wire give you a fine enough screen so that embers that try to get through those if any do get through are so small that they have very little to no chance to igniting anything combustible behind it. 2mm or finer aperture stainless mesh would be the go-to.

Justin Leonard, *31st August 2023*
Source: Bushfire Resilience Inc 2023 Webinar 3

DURABLE

SSWM Bushfire Mesh has been tested to endure the equivalent of 1000 hours of salt spray testing with no corrosion to 316 mesh. Bushfire Mesh is corrosion resistant, non combustible and requires minimal maintenance.

EASE OF INSTALLATION

SSWM's Bushfire Mesh range is a versatile product, that can be installed as a component or as part of a system and therefore can be fully customised to best meet the requirements of your unique applications. With our user-friendly residential DIY guide, you can identify, select, and install your Bushfire mesh quickly and easily.

COMPLIANT

SSWM has a strong focus on our independent testing programs, ensuring that we meet the build codes of Australian Regulations 158, the latest Australian standards AS 3959 for the construction of buildings in bushfire prone areas and satisfies the State Fire Authority and various Royal Commission findings.

AFFORDABLE

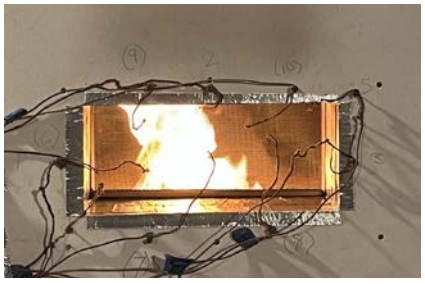
The product is easy to use and install and does not require a specialist, reducing the overall cost. With minimal maintenance required and a long asset life, the total cost is lower than other materials. That's why Bushfire Mesh Shield is the lasting decision.

SUSTAINABLE

Our products are manufactured to endure harsh environments and situations where strength, reliability and resilience is crucial. Bushfire Mesh Shield is manufactured from high quality stainless steel wire and precisely engineered to form a strong and impact resistant mesh, making it a lasting decision to protect your assets.

Perimeter Fence Application demonstrating durability in Australia's harsh environment
Bushfire Mesh TOUGH Shield

Roof Application demonstrating easy installation
Bushfire Mesh TOUGH Shield



Vent Application testing in progress to achieve compliance to ASTM E2886
Bushfire Mesh TOUGH Shield

Subfloor Application demonstrating no specialty tools are required, scissors and staple gun were used
Bushfire Mesh FLEXI Shield

Perimeter Fence Application improving your resilience to bushfires demonstrating a lasting decision
Bushfire Mesh TOUGH Shield

Why Bushfire Mesh is part of our solution for your bushfire protection

Stainless Steel
BUSHFIRE MESH®

Bushfires produce embers, and these embers are carried by winds and can start fires where they land. The size, the number, the fuel bed and the wind velocity all effect the probability of embers starting fires within Buildings.

Bushfire Mesh with an aperture of 2mm is specified in the Australian Standard 3959. SSWM's Bushfire Mesh range from 1.21mm and 1.67mm all exceed the 2mm requirement and therefore provide superior protection against embers. Testing has demonstrated that 2mm aperture mesh will allow embers to pass and ignite shredded paper behind the mesh.

The building on the right-hand side survived the bushfire and ember shower because dangerous embers didn't enter the roof space or floor cavity via vents. The right Bushfire Mesh can protect buildings!

Source: Fire Adapted Communities, Florida Fire Service

Bushfire Attack Level (BAL)

AS3959 uses a scale referred to as the Bushfire Attack Level (BAL). It is a means of measuring the severity of a building's potential exposure to ember attack, radiant heat, and direct flame contact. The Flame Zone (FZ) is the highest level of bushfire attack.

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stainless steel® WIRE & MESH