PRODUCT DATA SHEET

>180/-/- MINS

Fireshield®

FIRESHIELD920KS

Interior and Exterior solvent free epoxy intumescent coating up to 180 minutes FRR.

PRODUCT INFORMATION

Fireshield® 920KS combines advanced two-component modified epoxy technology with proven intumescent fire protection for cellulosic applications, offering robust performance and a high-quality, visually appealing finish suitable for exposed steelwork.

Fireshield® 920KS is Green Star compliant with low VOC content designed to provide up to 180 minute fire protection on interior and exterior structural steel open and closed sections.

Fireshield® 920KS is fully tested, assessed and certified by ILAC laboratories worldwide and complies with the New Zealand Building Code and the National Construction Code of Australia.

Fireshield® 920KS can be used as the high build epoxy component within anti-corrosive coating systems up to C5-H exterior, in accordance with AS/NZS 2312.1:2014 and SNZ TS 3404:1999 direct to metal or to a primed steel surface.

AREAS OF USE

Fireshield® 920KS is designed to provide cellulosic fire protection and anti-corrosive protection to structural steel to a wide range of commercial, industrial and large public amenity buildings such as high rise projects, shopping centres, convention centres, hotels and industrial complexes.

Designed for durability and versatility, Fireshield® 920KS has been tested and approved for fire protection in the harshest environments down to -55°C as part of an approved system.

Fireshield® 920KS is suitable for on site and off-site application, allowing steelwork to be coated prior to delivery and installation on site if required.

An expansion gap of 10 x the dry film thickness is recommended when using Fireshield® 920KS, however attachments are permitted to the coated surface such as timber, plasterboard, Korok wall systems and metal brackets. See the Fireshield® Attachment Guide for full details.

The recommended maximum film thickness is 3000µm WFT per coat. Complex steel sections and poor environmental conditions can reduce the maximum film build per coat and extend dry times.

PRIMER COMPATIBILITY

Fireshield® 920KS has been tested extensively over a wide range of primers and forms full y warranted systems using the following primers:

- Fireshield® approved primers, go to www.fireshieldcoatings.com for the Approved Primers List.
- Approved generic 2- pack epoxy primers for interior use only according to EAD 21/0475, contact Fireshield® for more information.

TOP COAT COMPATIBILITY

Where a decorative finish is required, Fireshield® 920KS has been tested extensively with a wide range of approved top coats, go to www.fireshieldcoatings.com for the Approved Top Coats list.

WEATHER PROTECTION DURING CONSTRUCTION PHASE

No limitations for surfaces with an anti-corrosive primer for exposure to exterior elements, like all epoxies UV exposure effects may occur such as chalking which have no effect on the fire protection. Contact Fireshield® for direct to steel application exposure without anti-corrosive primer.

TECHNICAL INFORMATION

Fire Rating	30 to 180 minutes (30/-/- to 180/-/-)
Colour	Grey low sheen (RAL7045)
Volume Solids	100% by volume and weight.
Application Method	Airless Spray
Max. Film Build	3000 microns per coat.
Corrosivity Zones	C1 to C5 Very High
On Site / Off Site	Application on site or off site.
VOC	<30 gm/l ISO 11890-2:2020-12
Clean Up	Fireshield® V55
Bond strength	> 8 MPa (DIN EN ISO 4624)
Theoretical Cover	1kg at 1000 mu = 0.77m^2 coverage.
Flash Point (C°)	Non combustible Parts A and B

DRY TIMES*

At 1000 microns dry film thickness (at 23°C)	
Touch Dry	6 hours (ISO 9117-3:2010)
Hard Dry	24 hours
Recoat (with self)	24 hours minimum to 7 days* max.
Top Coat	24 hours minimum

At 3000 microns dry film thickness (at 23°C)	
Touch Dry	8 hours (ISO 9117-3:2010)
Hard Dry	30 hours
Recoat (with self)	36 hours minimum to 7 days* max.
Top Coat	36 hours minimum

*Drying and curing times are a guide only and will be affected by environmental conditions outside of those listed above. For optimal drying and curing conditions ambient air temperature +15°C to + 30°C and the relative humidity < 50%.

ENVIRONMENTAL	
Green Star	Yes: VOC < 30 gm/l ISO 11890
Solvent Free	Yes 100% solvent free.
Indoor Air Quality	AgBB compliant
Emissions	Class A+ (NZBC Clause F2)
Chemical Content	Zero halogens and alkylphenol

SURFACE PREPARATION

STEEL SURFACE

The steel surface to be coated must be completely clean and dry, remove all contamination, dust, oil, soluble salts, grease, loose material or other contaminants in accordance with SSPC-SP1 solvent cleaning and AS1627.1, Definitions 2.1.

PRIMED STEEL SURFACE

Steel substrates must be abrasive blast cleaned to a minimum cleanliness standard of ISO 8501-1 Sa 2½, equivalent to AS 1627.4 Class 2½ or SSPC-SP6. Ensure the steel surface preparation conforms with primer technical datasheet , in particular the minimum cleanliness standard, blast profile and maximum recoat window. The resultant surface profile shall be within the range of 50–85 µm. Following blasting, the surface shall be suitably primed with a primer system compatible with the specified service environment and the applicable corrosivity category.

DIRECT TO STEEL SURFACE

Fireshield® 920KS can be applied direct to blasted steel for C1 to C3 interior service environments - Fireshield for advice on specification and prior to application. The steel substrate should be abrasive blast cleaned to a minimum cleanliness standard of ISO 8501-1 Sa 2½ (equivalent to AS 1627.4 Class 2½ or SSPC-SP 6). The resultant surface profile shall be within the range of 50–85 µm.

Fireshield® 920KS can also be applied directly to oxidised blasted steel surfaces for C1 to C3 interior service environments - contact Fireshield for advice on specification and prior to application.

Galvanised Steel Surface

For galvanised steel substrates prepare steel substrates by sweep abrasive blasting to provide a roughened surface, to a standard similar to Sa 1 (ISO 8501-1), NACE No 4 or SSPC-SP7 which will provide a 12-30 micron profile. An approved primer can be applied after the sweep blast.

APPLICATION

APPLICATION NOTES:

Fireshield® 920KS must be applied in strict accordance with the Fireshield® Application Guide AI:FS920KS by Registered Fireshield Applicators. In particular the Applicator should ensure:

- Store both Parts A and B at a minimum of +15°C for 24 hours prior to mixing and subsequent application.
- Check compatibility with any previous applied product before application.
- Application should be completed in conjunction with the FPANZ or Intumescent Code of Practice.
- During application the coating materials Parts A and B must remain as a homogeneous mixture.
- Minimum steel surface and air temperature during application is +10°C and relative air humidity < 85%. Curing will not occur adequately below +5°C. Steel surface temperature must be > +3°C above the dew point.
- For optimal drying and curing conditions ambient air temperature +15°C to + 30°C and the relative humidity < 50%.
- Environmental temperatures <+10 °C can affect the visual appearance of the final product, flow properties during application and extend drying times.
- The maximum overcoating period with Fireshield® 920KS and/or with the topcoat is 7 days, if the recoat window is exceeded the surface must be uniformly and thoroughly abraded P60-P80.

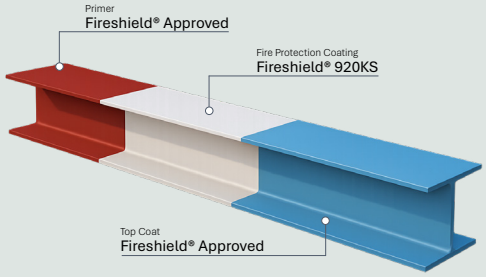
COATING STRUCTURE

Interior Steel	ISO 12944 corrosivity zone		
Coat Required	C1 to C3M	C3H to C4	C4H to C5VH
2K Approved Primer	○	●	●
Fireshield® 920KS	●	●	●
2K Approved Top Coat	○	●	●

Exterior Steel	ISO 12944 corrosivity zone		
Coat Required	C1 to C3M	C3H to C4	C4H to C5VH
2K Approved Primer	●	●	●
Fireshield® 920KS	●	●	●
2K Approved Top Coat	●	●	●

○ = Dry indoors optional (when no adverse ambient effects)

● = Mandatory use!



POWER MIXING

When applying by single-component airless spray equipment or brush it is necessary to mechanically power mix Fireshield® 920KS Parts A and B beforehand:

- Store Part A (base) and Part B (hardener) in a temperature controlled room at +15 °C to +20 °C for at least 12 hours prior to application.
- Firstly, thoroughly mix Part A (base) using a power mixer to a material temperature of at least +15 °C.
- Continue to power mix Part A, then add Part B (hardener) to the specified mixing ratio and continue power mixing for at least 5 minutes until the compound becomes homogeneous.

MIX RATIO

	Part A - Base	Part B - Hardener
By Volume	2.5 part(s)	1 part(s)
By Weight	100 part(s)	40 part(s)

APPLICATION

PRECAUTIONS

The following precautions must be taken when applying Fireshield® 920KS:

- Fireshield® 920KS is an industrial product and all work involving the application and use of this product should be compliant with all relevant National Health, Work Safety & Environmental standards and regulations.
- Read the Fireshield® 920KS Application Guide AI:FS920KS in full before application. See the Fireshield Maintenance Guide for repair methodology options.
- Before use read the Fireshield® 920KS Material Safety Data Sheets Pt. A and Pt. B (MSDS) and have copies available on site at all times.
- Ensure adequate ventilation when applying in confined spaces.
- For multi coat applications keep the overcoat interval as short as practical for optimum intercoat adhesion, do not apply if not fully cured.
- Where conditions may require variation from the recommendations on this Product Data Sheet contact Fireshield® for advice prior to using the product.

TRANSPORT

When transporting steel sections that have been coated off site, chains are the preferred method for handling, do so with care to avoid damage. Store coated sections at a gradient to avoid water pooling on the coated surface.

STORAGE

Recommended storage conditions:

- Store at a temperature above +5°C and below +35°C.
- Store indoors and undercover in temperate conditions.
- Store away from direct sunlight, do not expose to extreme heat.
- Do not allow to freeze.
- Keep containers closed when not in use.
- Keep out of reach children!

COMPLIANCE

New Zealand:

Tested and assessed in accordance with EN 13381-8:2013 and BS476:1987 Parts 20 and 21 complying with NZS 3404 Pts 1 and 2:1997 and the New Zealand Building Code.

Australia:

Tested and assessed in accordance with EN 13381-8:2013 complying with AS4100:1998 amendment 1 and with the National Construction Code of Australia.

SUPPLIER

Fireshield® New Zealand
105 Lichfield Street
Christchurch 8013,
New Zealand
Ph: 0800 347 374
www.fireshieldcoatings.com

Fireshield® Australia
Level 7/77 Market Road
Wollongong NSW,
Australia
ABN: 95 336 533 948
Ph: 1-800 092 097

Manufacturer
RUDOLF HENSEL GMBH
Lauenburger Landstraße 11
21039 Börnsen | Germany

APPLICATION METHOD

AIRLESS SPRAY

Fireshield® 920KS can be applied using a high performance single leg or hopper fed spray unit with 70:1 pump ratio, tip size requires a airless unit with paint heating unit(s) and feed pump(s) or gravity feed unit.

WORKING POT LIFE		
+ 23 °C	+ 30 °C	+ 40 °C
~ 60 minutes	~ 45 minutes	~ 30 minutes

PLURAL COMPONENT AIRLESS SPRAY

Fireshield® 920KS can be applied using a high performance heated plural spray equipment. See the Fireshield 920KS Application Guide for full details.

CLEANING EQUIPMENT

Clean using Fireshield® V 55 cleaner immediately after completion or interruption such as protracted work stoppages. When completed, drain the cleaner material completely out of the airless equipment and hoses.

There are no product-specific disposal restrictions for excess product, however disposal must comply with the requirements of state and local disposal regulations.

BRUSH APPLICATION

Can be applied undiluted by brush to small areas to repair joints and bolt connections. Multiple coats will be required to achieve the requried film thickness. Repair kits are available for small application areas.

ROLLER APPLICATION

Not recommended.

SHELF LIFE

Parts A and B : minimum 15 months when stored in original sealed containers in the conditions listed above, product is subject to re-inspection thereafter as shelf life is not an expiry date.

PACKAGING

Single component airless machines (21 kg kit)	
920KS Part A Base	15 kg
920KS Part B Hardener	6.0 kg
Plural component airless machines	
920KS Part A Base	20 kg / 200 kg options
920KS Part B Hardener	20 kg / 200 kg options
Repair Kits	
920KS Part A Base	2.5 kg
920KS Part B Hardener	1.0 kg