



FIRESHIELD471KS

Interior waterborne intumescent coating up to 180 minutes FRR.

PRODUCT INFORMATION

Fireshield® 471KS is a waterborne, halogen free thin film intumescent coating with a matt white finish, designed for use on interior structural steel open and closed sections providing up to 180 minute fire protection.

CONDITIONS OF USE

Fireshield® 471KS is an industrial product, it can be applied on or off site by Fireshield® Registered Applicators.

COATING REQUIREMENTS

For C1 interior dry zone installation concealed steel:

1. Fireshield® approved primer coat.
2. Fireshield® 471KS

For C2/C3 interior zones concealed and exposed to view, C1 zones exposed to view with topcoat or when a washable surface is required:

1. Fireshield® approved primer coat.
2. Fireshield® 471KS
3. Fireshield® approved top coat

NOTE: All steel sections must be coated with the correct film thickness as scheduled to achieve the required fire rating for compliance purposes. Fireshield® 471KS dry film thickness must be measured before any topcoat is applied to ensure the correct film thickness is applied.

MAXIMUM FILM THICKNESS

At +20°C air temperature, sufficient air exchanges (air flow) and 50% relative humidity the recommended maximum wet film thickness (WFT) is 750µm per coat. Applying above 750µm WFT in one coat will cause cracking, poor intercoat adhesion and delays in drying time.

NOTE:

The maximum film thickness per coat will be reduced by poor air flow, project specific environmental conditions differing from those listed above which are a guide only and the complexity of the steel section being coated. Also see Multi Coat Application below.

PRIMERS AND TOP COATS

Fireshield® 471KS can only be applied to a primed surface. All primers and top coats must be approved by Fireshield, for the list of Fireshield® approved primers and top coats list go to www.fireshieldcoatings.com.

WEATHER PROTECTION DURING CONSTRUCTION PHASE

During construction, we recommend the application of Fireshield® WeatherSeal to mitigate the risk of moisture ingress into the coating. Do not let water pool on coated surfaces or at the base of columns.

LIMITATIONS

- For interior use only. **Do not use on exterior steel.**
- Intumescent coatings generally require an expansion gap of 50 x the dry film thickness from the coated surface. However Fireshield® 471KS can have timber and plasterboard attached to the coated surface, see the Fireshield Attachment Guide for full details.
- Do not use dark decorative top coats (LRV≤25) on exposed steel subject to direct sunlight such as behind windows or in atriums.

TECHNICAL INFORMATION

Specific gravity	1.34 kg/l (ISO 3233)
Non-volatile content	72% +/- 3%
Flash point	Non-combustible
Colour	White / flat
Packaging	25kg buckets. (18.65l approx)
Mixing	Thorough mechanical mix.
Thinning	Max 3% (adjust film thickness)
Clean up	Water
VOC	<1 gm/l (ISO 11890-2)
Environmental	Green Star
Film thickness	750mu WFT = 540mu DFT

DRYING TIME

The following drying times have been measured with a wet film thickness of 750µm at a controlled temperature of +20°C and 65% relative humidity:

Dry to touch (surface)	4 hours
Dry to WeatherSeal	8 hours minimum
Dry to recoat with self.	24 hours minimum.
Dry to top coat.	24 hours.

NOTE:

Do not top coat unless dry hard with positive fingernail test, see Multi Coat Application for reduction of maximum film builds.

Dry times will be lengthened by poor air flow, cold temperatures, and high relative humidity. Dry times shown are a guide only. Contact Fireshield® for more information.

Application should not take place in conditions which are deteriorating, e.g. the temperature is falling or there is a risk of condensation forming before the product is cured

COMPLIANCE

New Zealand:

Tested and assessed to BS476 parts 21 and 22 using NZS 3404: Part 1, 1997 and complying with the New Zealand Building Code B1/VM1 and C2/AS1-C6/AS1 Section C5.1.1.

APPLICATION NOTES

The product must be applied in strict accordance with the Fireshield® Application Guide. In particular the Applicator should ensure:

- Any steel surface that is to be coated is $< +35^{\circ}\text{C}$ and is at least $+5^{\circ}\text{C}$ above the dew point.
- Mild steel surface blast profile to Sa 2.5 according to ISO 12944-4, or manual cleaning PSt 2 according to EN ISO 12944-4 before priming.
- Can be applied to primed galvanised steel, degass galvanised surface before priming.
- The surface to be coated must be completely clean and dry, remove all rust, dust, oil, grease, loose material or other contaminants as per AS1627.1, Definitions 2.1.
- Check compatibility with any previous applied product before application.
- Application should be completed in conjunction with the FPANZ Intumescent Code of Practice.

APPLICATION ENVIRONMENT

During application, drying and curing period, day or night ensure:

- The air temperature is above $+10^{\circ}\text{C}$ and relative humidity $< 80\%$.
- Environmental conditions during application must be documented in a report according to EN ISO 12944-7 and -8.
- During application and drying, protect from direct wetting/moisture/windblown rain and water pooling on or around the coated steel section. Seal with Fireshield® WeatherSeal for protection during construction.

PRECAUTIONS

The following precautions must be taken:

- 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® 471KS Application Guide in full before application.
- Before use read the Fireshield® 471KS Material Safety Data Sheet (MSDS) and have a copy available on site at all times.
- Where conditions may require variation from the recommendations on this Product Data Sheet contact Fireshield® for advice prior to painting. Do not apply in conditions outside the parameters stated in this document without the express written consent of Fireshield®.

MULTI COAT APPLICATION

- Apply the first coat of 471KS at $375\mu\text{m WFT}$ ($250\mu\text{m DFT}$).
- Proceeding coats of 471KS then applied at $750\mu\text{m WFT}$ ($540\mu\text{m DFT}$).

Ensure that the previous coat is dry (min. 24hrs) with a positive fingernail test. Intercoat adhesion can be affected if the previous coat is not 100% dry. Reduce the max film build per coat if necessary.

Multi coat application of single pack products at high film builds will slow curing times, consider Fireshield®920KS epoxy for high film build application for faster curing times.

APPLICATION METHOD

AIRLESS SPRAY

Airless spray is the recommended method of application and gives the best result. A material temperature of $+20^{\circ}\text{C}$ is recommended to achieve optimal spray application and surface finish.

Choose appropriate fan width depending upon steel section profile(s) to be coated and remove all pump filters.

AIRLESS EQUIPMENT RECOMMENDATIONS

Pump flow rate	4 litres/minute.
Spray Gun	Heavy Duty Texture Gun or similar.
Spray Tip	Orifice size range of 0.017" - 0.025".
Atomising Pressure	3000-3500 P.S.I
Material Hose	>30mtrs of 3/8" material line & 3mtrs of 1/4" whip line.

BRUSH

Brush application only suitable for small areas or touch-up and may result in a textured finish, use long-bristled Chinex-bristle or similar.

ROLLER

Roller application only suitable for small areas or touch-up and may result in a textured finish, use a lambskin or foam roller.

STORAGE

Recommended storage conditions:

- Store at a temperature above $+5^{\circ}\text{C}$ and below $+30^{\circ}\text{C}$
- 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!**

SHELF LIFE

12 months at $+20^{\circ}\text{C}$ if stored in original sealed containers under recommended storage conditions listed above, product is subject to re-inspection by Fireshield thereafter as shelf life is not an expiry date.

SUPPLIER

Fireshield® New Zealand
Level 1/150 Lichfield Street
Christchurch 8013,
New Zealand
Ph: 0800 347 374

Manufacturer
RUDOLF HENSEL GMBH
Lauenburger Landstraße 11
21039 Börnsen | Germany



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