

Fireshield® SQ476

Single pack solvent intumescent coating for structural steel up to 120 minutes FRR.

PRODUCT INFORMATION

DESCRIPTION

Fireshield® SQ476 is a single component, solvent based acrylic thin film intumescent basecoat for the fire protection structural steelwork. Fireshield® SQ476 has been optimised and formulated for 120-minute protection.

CONDITIONS OF USE

Fireshield SQ476 is an industrial product and should only be applied by Registered Applicators. Steel 1001 can be used in conjunction with the Fireshield Cladding Study which allows timber and plasterboard to be attached to the coated surface, contact Fireshield® prior to specification.

COATING REQUIREMENTS

For C1 (ISO 12944-2) interior dry zone installation (concealed steel):

1. Fireshield® approved primer coat.
2. Fireshield® SQ476

For C2 to C3 (ISO 12944-2) interior zones, in areas where constant air humidity is over 75%, when exposed to view or when a washable surface is required:

1. Fireshield® approved primer coat.
2. Fireshield® SQ476
3. Fireshield® approved top coat

NOTE: The dry film thickness must be measured during application to ensure the specified film thickness has been achieved before a topcoat is applied. All steel sections must be coated with the correct film thickness as scheduled to achieve the required fire rating for compliance purposes.

Maximum film thickness

1000µm WFT per coat at +25°C and 50% relative humidity. Applying too thick or more than 1000µm WFT in one coat may cause:

- Cracking
- Poor adhesion
- Delay in drying time.

Do not exceed 1,300µm wet film thickness per coat, the final dry film thickness should not exceed over 30% specified thickness.

NOTE: The maximum film thickness may be reduced by poor air flow and environmental conditions differing from those listed above, which are a guide only. Contact Fireshield® for more information.

PRIMERS AND TOP COATS

Fireshield® SQ476 can only be applied to a primed surface using Fireshield approved primers, steel sections must be blast cleaned to ISO 8501-1 SA2.5 or equivalent. Only Fireshield® approved top coats can be used. See the Fireshield® approved primers and top coats list at www.fireshieldcoatings.com. During construction apply Fireshield® WeatherSeal for 6-months protection from the elements.

LIMITATIONS

- Water cannot be allowed to pool on SQ476 coated steel surfaces.
- Do not use on exterior steel.
- Single pack solvents remain soft when applied in multiple coats, this is normal and to be expected. SQ476 will fully harden once cured.
- Fireshield® SQ476 is an industrial product and should only be applied by Fireshield® Registered Applicators.
- SQ476 can have timber and plasterboard fixed to the coated surface up to 60mins FRR, see the Fireshield® Attachments Guide.

TECHNICAL INFORMATION

Specific gravity	1.3 +/- 3%
Non-volatile content	65%
Flash point	+ 32°C (hermetically)
Colour	White / flat.
Packaging	18 litre / 23.4kg weight approx.
Mixing	Mechanical mix well.
Thinning	Do not thin.
Clean up	Fireshield SQ476 Thinner

Wet Film (WFT)	Dry Film (DFT)
500µm	325µm
1000µm	650µm
2500µm	1625µm
5000µm	3250µm

DRYING TIMES

The following drying times have been measured with a wet film thickness of 1000µm:

Air Temperature (°C)	5°	15°	25°	35°
Dry to Touch (hours)	2.5	2.0	1.5	1.0
Dry to Hard (hours)	32	27	25	20
Re-coat time min. (hours)	48	24	24	24
Re-coat time max. (days)	free	free	free	free
Top Coating (days)	7	3	3	3

NOTE: Dry times may be lengthened by poor air flow and environmental conditions differing from those listed above, which are a guide only. SQ476 can be over coated and top coated when "soft" but dry to touch, this is normal for single pack solvent products.

COMPLIANCE

Fire Tested to BS476:Part 21 :1987 to NZS3404: Part 1 : 1997 and complying with the New Zealand Building Code B1/VM1 and C2/AS1-C6/AS1 Section C5.1.1.

SHELF LIFE

18-months at +25°C if stored in original sealed containers under recommended storage conditions listed above. Do not use product that is beyond the Manufacturers shelf life date shown on the bucket. Contact Fireshield® if in doubt.

APPLICATION NOTES

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

- Any steel surface that is to be coated is at least 3° above the dew point.
- The surface to be coated must be completely clean and dry, remove all rust, dust, oil, grease, loose material or other contaminants.
- Check compatibility with any previous applied coating before application. This includes primer compatibility, see **Primers** above.

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.
- Before use, read the Fireshield SQ476 Material Safety Data Sheet (MSDS) before application 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.
- When welding or heat cutting steel sections coated with Fireshield SQ476, the appropriate personal protective equipment must be used and adequate ventilation to avoid dust and fumes created.
- Prior to the application of the topcoat, the applicator must ensure that the specified dry film thickness of SQ476 has been achieved. DFT thickness readings can be taken over a rigid shim.
- Top coated steelwork should not be exposed to direct sunlight and/or elevated temperatures immediately after application, as this may encourage a blistering effect caused by volatilisation of residual retained solvent within the SQ476 product. This can be exaggerated, in the case of direct sunlight, by the use of dark coloured topcoats that absorb more heat and so develop higher surface temperatures.

APPLICATION ENVIRONMENT

During application and curing day or night ensure that:

- The air temperature must be between +5°C minimum to a maximum +35°C.
- The relative air humidity level is below 85%.
- Protect from wetting/moisture/windblown rain and water pooling on or around the coated steel section.
- For application outside of these environmental guidelines, contact Fireshield® prior to application.

STORAGE CONDITIONS

Recommended storage conditions:

- Keep cool. Store at a temperature above +5°C and below +35°C
- Store in a well-ventilated place.
- Keep lid closed when not in use.
- Store locked up.
- Do not store in the vicinity of fire as the contents are flammable.
- Do not drop or overload when shipping or storing the product.
- **Keep out of reach children!**

It is the user's responsibility to check that you have the latest technical datasheet available by visiting fireshieldcoatings.com or checking with your local Fireshield® Representative as the information contained in this technical data sheet is modified from time to time in line with our policy of continuous product development. The information in this data sheet is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this data sheet does so at their own risk. All advice given or statements made about the product (whether in this data sheet or otherwise) are correct to the best of our knowledge, Fireshield® has no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability at all for the performance of the product or for (subject to the maximum extent permitted by law) any loss or damage arising out of the use of the product. Fireshield® hereby disclaim any warranties or representations, express or implied, by operation of law or otherwise, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. You should request a copy of this document and review it carefully.

APPLICATION METHOD

Airless Spray

All filters should be removed from the airless pump, lines and gun. A coarse filter can be fitted over the wet end to prevent contamination from the external sources from entering the spray machine and causing a blockage

Airless spray is the recommended method of application and gives the best result. Airless spray with an in-line heater (heater maximum temperature +35°C) can be used to assist application in the minimum environmental temperature range.

Equipment	Air-driven airless spray pumps with a ratio of at least 45:1 are preferred
Spray Gun	Heavy Duty Texture Gun or similar
Spray Tip	Orifice size range of .027" - .033". Choose appropriate fan width depending upon structure(s) to be coated 30° - 60°
Atomising Pressure	1,800 - 2,200 psi
Material Hose I.D	Up to 30mtrs of 3/8" material line and 3mtrs of 1/4" whip line.

Brush

Brush application only suitable for small areas or touch-up and may result in a textured finish. Care must be taken to achieve the required specified dry film thickness. Typically, 100-300µm can be achieved per coat.

Roller

Roller application is **not** advised.

WARRANTY

Manufacturers warranty applies to product within the shelf life period, contact Fireshield® for Fireshield® System warranty prior to starting project.

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