

## SC901

### Fast Track, Off-Site Intumescent Steel Coating

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#### Description

SC901 is a low VOC, one coat, high build system, based on patented technology. It provides a fast cure effective structural fire performance, for steelwork, up to a 120 minute fire rating.



#### Features and Benefits

- Fast cure, touch dry in 1 hour and the ability to handle and transport within 1 day.
- Early weather resistance, shower proof within 1 hour.
- Self-priming system tolerant of light rusting to steel, up to 2 weeks post blasting.
- High build potential with all ratings possible in one application.
- Fire rating up to 120 minutes tested to BS476 and EN13381: Part 8.
- Designed for off-site use.
- Optifire+® unique traceability identifier.
- Certifire CF5144.
- CE ETA 20/1216.

#### Usage Purpose

SC901 provides an ultra fast curing fire protection coating for structural steel. SC901 is designed to provide upto 120 minutes fire resistance to 'I' section beams and columns, hollow columns, cellular beams, concrete filled hollow columns and solid steel tension rods. As a fast-track coating, all 120 minute loadings are possible to apply in a single coat and weather resistant in one hour. SC901 can be used on steel, cast iron and galvanised steel.

Nullifire SC901 is designed for off-site or shop application using twin component spray equipment.

#### Packaging

Part A: 25 kg drum or 250 kg barrel (16.1 litre drum or 161 litre barrel)

Part B: 2.7 kg can or 45 kg drum (2.7 litre can or 45.4 litre drum)

#### Available Colour

Part A - White

Part B - Translucent Black

Mixed - Off-white

Cured - Off-white

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### Storage

Store in secure, dry warehouse conditions between +0°C and +35°C

### Certificates & Approvals

Certifire CF5144  
 BS476 Part 20-22  
 EN13381-8 – Structural Steel  
 ETA - 20/1216  
 CE Mark - 2812-CPR-GA5018  
 Cellular Beams - YB5 & EN13381-9  
 EN13381-6 Concrete Filled Hollows  
 EN13381-10 Solid Steel Tension Rods  
 Australian standards AS4100 and AS1530  
 Japanese standard JIS A1304  
 (for other certification requirements, contact Nullifire)

### Technical Characteristics

Average Drying Times (DFT & Temp)		1000 microns DFT @ 20°C	To Touch – 15 minutes To Recoat – 2 hours To Handle – 16 hours These figures are given as guidance only. Other factors such as air movement, temperature and coating thickness must be considered.
Construction Phase			6 months without topcoat once fully dried (see Environmental Resistance section)
Specific Gravity			Part A: 1.55 ±0.02 Part B: 0.99 ±0.01 Mixed: 1.46 ±0.02
Thickness	Recommended thickness per coat		As per loading tables (e.g 1,750 g/m <sup>2</sup> @ 1000 µm DFT theoretical coverage rate) Refer to Nullifire Technical Services for any queries
Mix Ratio	Mix Ratio		5.6:1 by volume 100:12 by weight
Pot Life In +20°C	Pot-life or Sprayable Life		15 minutes
Solids Content	Volume Solids		85% ±3

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#### Technical Characteristics

Application Temperature		+5°C to +35°C, relative humidity <95% and a steel surface temperature at least 3°C above the dew point.
Service Temperature		-20°C to +40°C
Environment / VOC		137 g/litre
Finish		Matt
Storage		Store in secure, dry warehouse conditions between 0°C and +35°C
Application Instructions		Detailed application instructions are available for SC600, SC800 and SC900 series that must be consulted prior to commencing application. Please visit <a href="https://www.nullifire.com/en_GB/technical-zone/download-centre/">https://www.nullifire.com/en_GB/technical-zone/download-centre/</a>
Cleaning		Uncured paint can be removed using xylene (FC150). Dried on paint may be removed using a paint scraper. Spray equipment must only be cleaned using xylene (FC150), or solvents with minimum 80% xylene, and water content must be <0.2%. Higher water contents will lead to gelling in the equipment.

#### Environmental Resistance

C1, C2, C3, C4 and C5 environments.

ETAG 18-02 – up to and including Type X.

For full details, please consult Nullifire Specification Guidelines.

The construction phase environmental conditions may vary from those during the final building classifications.

The construction phase may include higher exposure to the environment than the final classification. Each product and specification should be considered for the resistance during this construction phase including the limitations and caveats.

During the drying phase, the intumescent must be protected from all forms of water including rain.

In all cases, prolonged water contact must be avoided, including condensation, standing water, heavy running water and fresh concrete run-off (including alkaline moisture). Exposure may lead to detrimental damage to the coating system.

#### Substrate Preparation

SC901 should only be used on substrates which have had all mill-scale removed and blasted to an average blast profile of 75 microns, with a minimum of 40 microns, and a cleanliness of Sa 2.5 must be achieved before application of recommended primer. All surfaces must be clean, dry and free from contamination before coating application.

#### Necessary Tools

##### SPRAY EQUIPMENT

Graco XM Plural-Component Pump Note: All equipment used in conjunction with this pump must be suitably pressure rated at 7000 psi.

Ratio: 5.6:1 by volume

Spraying Pressure: 3000-5000psi Remote mix manifold conversion kit

In-line static spiral mixer (minimum of one) Flush Pump recommended

##### SPRAY GUN & TIPS

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WIWA 500F Spray Gun

XHD RAC Switch Tip Orifice size 0.019 to

0.023 inches

PART A HANDLING (Recommended) Graco Monark 5:1 Air Powered Transfer Pump

Graco Heavy Duty Back Geared Drum Agitator

### Protective Equipment

USE IN WELL VENTILATED CONDITIONS and ensure all recommended protective equipment is worn during handling & use of this product. For full recommendation, refer to safety data sheet.

### Mixing

Always mechanically mix product in full pack volumes.

Ensure the two components are thoroughly combined until a uniform colour is obtained by premixing Part A and adding Part B.

SC901 can be thinned up to 2% maximum using FC150.

### Preparation

No primer required for C1 or C2 environments. • Steelwork should be blast cleaned in dry atmospheric conditions using abrasive of suitable type and size, free from fines, moisture and oil. Continue blasting until finish complies with Swedish Standard SIS 05 59 00, preparation grade SA 2.5 or ISO 8501-1. • Coat blasted steel within 2 weeks. All surfaces to be coated should be clean, dry and free from loose friable materials and any other contaminants likely to impair adhesion. • Nullifire recommends and has tested a number of primers depending on the application. Refer to the Approved Primer list from Nullifire Technical Services. • The system is not suitable for use over single pack primers and compatibility with 2 pack primers should be checked with Nullifire Technical Services.

• For use over galvanised surfaces or other substrates please contact Nullifire Technical Services.

### Application

Keep all product containers closed when not in use.

Part B is moisture sensitive and should remain tightly closed before use.

Primer may be omitted from the specification in C1 and C2 environments. Damaged primer does not need to be repaired in C1 or C2 environments.

Spraying from too far a distance may result in dry spray or a textured finish that may affect the aesthetic appearance and lead to problems when a topcoat is applied such as coalescence and adhesion.

Refer to application instructions for further guidance.

As a fast-track coating, it is possible to apply single coat thicknesses significantly greater than traditional coatings, upto 10 mm without defect. All 120 minute loadings are possible to apply in a single coat; however, we recommend that the applicator select a target WFT in line with substrate geometry, access and level of finish required for the project.

Note: If the user needs to stop spraying for longer than 15 minutes flushing will be necessary.

Galvanised bolts, once degreased, can be coated without any further preparation.

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#### Tool Cleaning

Uncured paint can be removed using xylene (FC150). Dried on paint may be removed using a paint scraper. Spray equipment must only be cleaned using xylene (FC150), or solvents with minimum 80% xylene, and water content must be <0.2%. Higher water contents will lead to gelling in the equipment.

#### Topcoats

For recommended topcoats, please consult Nullifire.

Nullifire has carried out compatibility testing on various topcoats, but have no control over topcoat consistency from other manufacturers.

The type, DFT and number of layers of topcoat must be in accordance with the specification. Specifications will be driven by the Nullifire Specification Guidance or the appropriate product ETA.

The topcoat must be applied in accordance with the manufacturer's instructions.

It is recommended as best practice that a small test patch or area be prepared before commencing the full application to ensure that there are no issues with compatibility, adhesion or drying, etc.

#### Consumption Text

1,750 g/m<sup>2</sup> @ 1000 µm DFT

#### Maintenance

Damaged areas should be abraded back to a sound surface. The surface should then be clean and dry before re-applying. The FC101 repair kit should be used (sold separately) for repairing scratches and chips. Once repaired top seal should be re-applied. Refer to Nullifire System SC900 Maintenance Instructions.

#### Guarantee / Warranty

Tremco CPG UK Limited products are manufactured to rigid standards of quality. Any product which has been applied (a) in accordance with Tremco CPG UK Limited written instructions and (b) in any application recommended by Tremco CPG UK Limited, but which is proved to be defective, will be replaced free of charge.

No liability can be accepted for the information provided in this leaflet although it is published in good faith and believed to be correct.

Tremco CPG UK Limited reserves the right to alter product specifications without prior notice, in line with Company policy of continuous development and improvement.

It is a requirement of the installer to ensure suitability and compatibility of all elements before installation commences and that compliance can be achieved as required.

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#### Health And Safety Precautions

Safety data sheet must be read and understood before use. Flammable - keep away from open flames and other ignition sources.

#### Technical Service

Tremco CPG UK Limited has a team of experienced Technical Sales Representatives who provide assistance in the selection and specification of products. For more detailed information, service and advice, please call Customer Services on 01942 251400.

#### Specifications

An appropriate specification must be used for the protection of the full system in accordance with the environmental classification for the environment where the building is located. The environment during construction and transport should also be considered, if necessary, and the worst case used. Nullifire can assist with selecting an appropriate specification.

#### Certification

