



S707 WATERBORNE BASECOAT



DATASHEET

Identification of Preparation

S607 Waterborne Basecoat is a white thin film intumescent coating for the fire protection of internal steelwork. S607 can provide up to 90 minutes fire resistance. It is white in colour.

Application Checklist

The following application instructions are for on-site application only. For off-site, refer to Nullifire Ltd. Ensure that:

- The primer is compatible with S607 and has been applied correctly
- The overcoating period for the primer has not been exceeded
- The correct primer is used for galvanised steel
- All damage to the primer has been repaired and re-primed
- Site and weather conditions are within specification
- S607 is stored correctly
- Surface is clean, dry and free from contamination
- Correct spray equipment is available, if appropriate
- Application instructions have been read prior to commencement of work.
- Ensure different basecoats are not applied on the same section of steel.
- Equipment should be clean and free from contaminants or dried material
- Wet film gauges are available for use

Surface Preparation

S607 should be applied onto a clean, undamaged, dry and primed steel surface.

Certain types of primers can cause adhesion problems and should be avoided. These include:

- Chlorinated rubbers
- Bitumen

Nullifire have carried out compatibility testing on a wide range of primers and can be contacted for confirmation of compatibility with S607.

Galvanised surfaces should be prepared by an application of T-wash or mordant solution followed by a compatible primer. The primer should be applied in accordance with the manufacturer's instructions.

If a zinc rich primer is used, it is advisable to seal this with a suitable tie coat or travel coat prior to shipment to site. If the seal is left exposed to the atmosphere with just a zinc rich primer, surface salts may build up on the steel. These salts, if not adequately removed, may cause adhesion problems for any subsequent coating applied. Removal of the salts can be achieved by high-pressure washing. Nullifire should be consulted for technical advice when zinc rich primers or the overcoating of existing paints are specified for use.

Site Conditions During Applications

Nullifire S607 is recommended for application and use on dry protected structural steel only.

If the basecoat is allowed to get wet, it is likely to be damaged – blistering and wrinkling may occur.

S607 should be applied when the air and steel temperatures are above 5°C. Relative humidity should be below 80% for successful application.

Steel surface temperature should be a minimum of 2°C above the dew point.

Ensure the steel is dry and free from contact with rain or condensation during the application and drying of S706.

Application Methods

S607 is supplied ready for use and must not be thinned but should be thoroughly stirred prior to use.

Airless Spraying

S607 may be applied up to a maximum wet film thickness (WFT) of 1.1mm (1500gm/m²) in a single spray coat comprising of several quick passes. It may be possible to apply two coats of S607 in one day particularly if the atmospheric temperature is above 20°C and relative humidity below 70%. However, before doing this, ensure that the previously applied coat is dry, particularly in the web/flange junctions.

Airless spray equipment is recommended and should match these guidelines:

Operating pressure:	2500 – 2700psi(180-195 kg/m ²)
Tip size:	19 – 21 thou(0.48-0.53)
Fan angle:	20° - 40°
Hose diameter:	10mm (³ / ₈ "
Hose length:	Max. 60 metres

Brush/roller application:

For brush application use a "laying on" technique to avoid heavy brush marking.

Maximum wet film per coat when applied using a brush or roller is 0.8mm (1100g/m²) A short piled roller will produce a light textured finish

Thickness requirements

During application, measure the wet film thickness frequently with the WFT gauge provided to ensure the correct thickness is being applied.

To use the gauge, insert the teeth into the wet basecoat. The last tooth to be coated indicates the wet film thickness achieved.

In the event of over or under applications, adjustments to the loading rates of subsequent coats will be required.



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Drying Times

Drying of S607 is dependant upon a number of factors including:

- Temperature
- Air movement
- Humidity
- Method of Application
- Thickness of Coating

High humidity and low air movement or low steel temperatures can result in condensation on the steelwork causing prolonged drying times and possibly poor basecoat adhesion.

Recoat Times In Hours

Indications of recoat or topsealing times taking into account loading areas and application methods are given below:

Hours per application (750g/m²)
Hours per application (1500g/m²)

RH	Spray	10°C		20°C		30°C	
		Still Air	Air flow	Still Air	Air flow	Still Air	Air flow
30%	Thin	6hrs	3hrs	5hrs	2hrs	3hrs	2hrs
	Thick	10hrs	5hrs	7hrs	4hrs	6hrs	3hrs
50%	Thin	8hrs	4hrs	6hrs	3hrs	4hrs	2hrs
	Thick	12hrs	6hrs	10hrs	5hrs	8hrs	4hrs
70%	Thin	15hrs	8hrs	12hrs	6hrs	8hrs	4hrs
	Thick	24hrs	12hrs	20hrs	10hrs	16hrs	8hrs

- Brushing or rolling adds about 20% to drying times (compared with spraying)
- Drying times are doubled at 5°C or at over 75% relative humidity.
- Final drying time before topsealing is a minimum of 24 hours
- These figures are based on constant conditions, fluctuations up or down will give variations to the drying times.
- If overnight condensation causes wetting a further full drying period should be allowed

Final Thickness Check

Take dry film thickness (DFT) readings as soon as the coating is sufficiently hard to allow a reading to be made without indenting the surface.

DFT's may be taken using equipment such as an Elcometer 211 permanent magnet type (banana gauge) or an electromagnetic type Nullifire DFR – 1 recorder.

Ensure that the DFT of the primer is deducted from the reading of the basecoat.

Do not apply topseal until the readings are in accordance with the specified Thicknesses.

Application of Topseal

Once DFT's have been achieved as specified, either TS616 Topseal (waterborne), TS615 Topseal (solvent borne) or 2 pack durable topseal Carboxane 2000 can be applied.

Ensure the S607 is completely dry before applying Topseal.

Maintenance

Damaged areas should be abraded back to a sound surface. The surface should then be clean and dry before re-applying. System S Filler may be used for repairing scratches and chips. Once repaired topseal should be re-applied. Refer to Nullifire System S Maintenance Instructions.

Storage

S607 should be stored internally between 5°C and 30°C. Do not store below 5°C. Temperatures above 25°C, the shelf life will be reduced. Shelf life is normally 9 months in sealed containers.

Health and safety

A separate Material Safety Data Sheet is available.

The foregoing information is believed to be accurate at the time of preparation of this document, and is provided in good faith. However, no warranty or representation with respect to such information is intended or given.