

## DESCRIPTION

Phoenix 170-120 Intumescent Coating is a single component solvent based thin film intumescent coating for fire protection of structural steelwork.

## PRODUCT FEATURES AND RECOMMENDED USES

- Designed for application by airless spray to provide up to 120 minutes fire resistance for structural steel sections.
- Tested and assessed in accordance with BS 476: Part 20 & 21: 1987 and the Criteria of Acceptability given in the ASFP/ BCF “Industry Guidance Document”.
- Highly competitive loadings.
- Easy application properties.
- After appropriate drying, Phoenix 170-120 can be exposed to the weather for up to 6 months provided that the specific use does not lead to ponding water due to rainfall, condensation or other site circumstances.

## PHYSICAL DATA

|                                |  |
|--------------------------------|--|
| Specific Gravity               | : 1.335 kg/litre.  |
| % Solids by Volume             | : 75 ± 4 % (ASTM-D2697-03).  |
| Color                          | : White.   |
| Flash Point                    | : 27°C   |
| VOC                            | : 355 g/ litre calculated from formulation to satisfy EC Solvent Emission Directive;<br>264 g/ kg content by weight from formulation to satisfy EC Solvent Emission Directive. |
| Recommended Application Method | : Airless Spray, Brush & Roller.   |
| Recommended Thickness          | : Refer to loading tables of Phoenix 170-120.  |
| Pack Size                      | : 20-litre units   |
| Shelf Life                     | : 24 months  |

## PRACTICAL APPLICATION RATES (MICRONS PER COAT)

|            | Airless Spray | Brush/ Roller |
|------------|---------------|---------------|
| <b>Dry</b> | <b>800</b>    | <b>200</b>    |
| <b>Wet</b> | <b>1066</b>   | <b>267</b>    |

## AVERAGE DRYING TIMES

Drying times will depend on the total thickness of Phoenix 170-120 to be applied. No more than two coats by airless spray should be applied within any 24-hour period. Factors such as air movement and humidity must also be considered.

## RECOMMENDED PRIMERS

A range of primers have been approved for use under Phoenix 170-120. Consult Phoenix Fire Protection for detail information.

**Phoenix 170-120 is not recommended to be applied directly on to galvanized steel and zinc rich primers without proper surface preparation.** Consult Phoenix Fire Protection for more information and technical advices.

## RECOMMENDED TOPCOAT

Acrolon 7300 is recommended. Alternative topcoats have been approved and can be used. Consult Phoenix Fire Protection for technical advice and topcoat compatibilities.

## SURAFCE PREPARARTION

Ensure surfaces to be coated are clean, dry and free from surface contaminants.

## APPLICATION EQUIPMENT

### Airless Spray

|                    |  |
|--------------------|--|
| Nozzle size        | : 21 to 27 thou depending on application requirements. |
| Fan Angle          | : 30°  |
| Operating Pressure | : 210 kg/ cm <sup>2</sup> (3000 psi)                   |

The airless spray details given above are intended as a guide only. Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen.

However, the operating pressure should be the lowest possible consistent with satisfactory atomization. As conditions will vary from job to job, it is the applicator's responsibility to ensure that the equipment in use has been set up to give the best results. If in doubt, consult Phoenix Fire Protection.

56 : 1 or 68 : 1 Graco King or equivalent spraying unit is recommended. Use 3/8" (9.53 mm) ID fluid line where lengths in excess of 10 feet (3 metres) are required. In-line gun or pump filters should not normally be used. Maximum length of fluid line should not exceed 60 metres.

### APPLICATION EQUIPMENT (CONTINUED)

Phoenix 170-120 is also suitable for brush and roller application, but due to the nature of the material, a ribbed appearance will result. Application of more than one coat may be necessary to give equivalent dry film thickness to a single applied coat by airless spray.

### APPLICATION CONDITIONS AND OVERCOATING

Phoenix 170-120 must be applied in a dry internal environment. It must not be exposed to condensation, damp or wet conditions during application.

In conditions of high relative humidity good ventilation conditions are essential. Substrate temperature should be at least 3°C above the dew point and always above 0°C.

At application temperatures below 10°C, drying and curing times will be significantly extended, and spraying characteristics may be impaired.

A minimum ambient air temperature of 5°C is required to ensure proper film formation.

Relative humidity should not exceed 80% to ensure proper film formation.

Extended over-coating times may be required at low temperatures and/ or high film thicknesses.

Phoenix 170-120 is capable of withstanding external exposure without topcoat providing:

- The product is allowed to dry for at least 24 hours at 15°C in dry conditions with good air movement and ventilation. These conditions are based on a total dry film thickness of up to 800 microns. The drying time required will be increased if the film thickness is greater than 800 microns.
- The substrate temperature is at least 3°C above the dew point at the time of application and during the drying period.

### ADDITIONAL NOTES

Maximum service temperature is 70°C. At temperature greater than 40°C, thermoplasticity may be observed.

Lack of air movement also slows down the drying process, and under such conditions it is advisable to introduce some method of circulating air over the coated surface in order to speed up the drying. A ventilated air speed of 2 meters per second is recommended.

Numerical values quoted for physical data may vary slightly from batch to batch. Excessive thinning will have adverse effect on sag resistance.

### HEALTH AND SAFETY

Refer to Material Safety Data Sheet for information on safe storage, handling and application of Phoenix 170-120.