PHOENIX 700-60

Product Data Sheet

www.phoenixasia.com.hk

DESCRIPTION

A water borne thin film intumescent coating for the fire protection of structural steelwork.

PRODUCT FEATURES AND RECOMMENDED USES

- Provide 30, 60 and 90 minutes fire resistance to structural steelwork.
- Tested in accordance with BS 476: Part 20 & Part 21: 1987 by Warrington Fire Research Centre and Building Research Establishment.
- Highly competitive loadings for most steel section sizes, giving reduced application costs.
- Easy application properties.
- Minimal VOC's - EPA Compliant and 'environmentally friendly'.
- Topseals are not required in C1 interior environments under the definitions in ISO 12944-2: 1998.
- Can be used externally with Phoenix Topseals or other compatible topseals. Consult Phoenix before use to confirm compatibility.
- Recommended for on-site application. Off-site application is also feasible, but must be topcoated before lifting, handling and exposed to weather.

PHYSICAL DATA

Specific Gravity	:	1.35 kg/lt.
Volume Solids	:	72 ± 2 %
Mixing Ratio	:	Not applicable (Single pack product)
Color	:	Off White / Light Grey
Gloss Gradation	:	Matt
VOC	:	24 g/lt.
Film Thickness	:	Wet Film 285-2400 µm; Dry Firm 200-1700 µm
Theoretical Coverage	:	0.70 litres/m² @ 500 µm DFT

Note: The volume solids content of this material has been measured in accordance with the method laid down in ISO 3233:1998.

APPLICATION CHECK LIST

The following instructions are for on-site application only. For off-site application, refer to Phoenix.

- The primer is compatible with Phoenix 700-60 and has been applied correctly.
- The overcoating period for the primer has not been exceeded.
- The correct primer is used for galvanized steel.
- All damage to the primer has been repaired and re-primed.
- Site and weather conditions are within specification.
- Phoenix 700-60 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

Phoenix 700-60 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
- Thermoplastic primers

Phoenix has carried out compatibility testing on a wide range of primers and can be contacted on (+852) 2810 6101 for confirmation of compatibility with Phoenix 700-60.

Galvanised surfaces should be prepared by an application of T-wash or mordant solution followed by a compatible non-saponifiable 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 steel 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. If adequate removal of the salts cannot be guaranteed, a suitable tie coat may have to be applied prior to the application of the Phoenix 700-60 Water-based Basecoat.

Phoenix should be consulted for technical advice when zinc rich primers or the overcoating of existing paints are specified for use.

SITE CONDITIONS DURING APPLICATION

Phoenix 700-60 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.

Phoenix 700-60 should only be applied when the air and steel temperatures are above 5ºC. Relative humidity should be below 80% for successful application. Steel surface temperature should be a minimum of 2ºC above the dew point. Ensure the steel is dry and free from contact with rain or condensation during the application and drying of Phoenix 700-60.

APPLICATION METHODS

Phoenix 700-60 is supplied ready for use and must not be thinned but should be thoroughly mechanically stirred prior to use.

Airless Spraying:

Phoenix 700-60 may be applied up to a maximum wet film thickness (WFT) of 1.2 mm in a single spray coat comprising of several quick passes. Achieving maximum loadings will depend on site conditions.

Build up thickness to achieve loading required in several quick passes. It may be possible to apply two coats of Phoenix 700-60 in one day particularly if the atmospheric temperature is above 20ºC and relative humidity below 70%. However, before doing this, ensure that the previously applied coat is dry, particularly in the web/flange junctions.

APPLICATION METHODS (CONTINUED)

Airless spray equipment is recommended and should match these guidelines:

Operating Pressure:	2500 - 3000 psi (175 - 210 kg/cm²)
Tip Size:	19 - 25 thou
Fan Angle:	20° - 40°
Hose Diameter:	10mm ($^3/_8$") (Internal Diameter)
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 1.0mm. A short piled roller will produce a light textured finish.

THICKNESS REQUIREMENTS

During application, measure that 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.

DRYING TIMES

Drying of Phoenix 700-60 is dependent 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 (0.3mm wft) – Thin coat

Hours per application (0.6mm wft) – Medium coat

Hours per application (1.2mm wft) – Thick coat

		10°C		20°C		30°C	
R/H	**Spray**	**Still Air**	**Air Flow**	**Still Air**	**Air Flow**	**Still Air**	**Air Flow**
30%	Thin Medium Thick	4.5 hrs 6.25 hrs 9 hrs	2.25 hrs 3.75 hrs 4.5 hrs	3.75 hrs 5.25 hrs 6 hrs	1.5 hrs 3 hrs 3.75 hrs	2.25 hrs 4.5 hrs 6 hrs	1.5 hrs 2.25 hrs 3 hrs
50%	Thin Medium Thick	56 hrs 9 hrs 12 hrs	3 hrs 4.5 hrs 6 hrs	4.5 hrs 6.25 hrs 9 hrs	2.25 hrs 3.75 hrs 4.5 hrs	3 hrs 6 hrs 7.5 hrs	1.5 hrs 3 hrs 3.75 hrs
70%	Thin Medium Thick	11.25 hrs 15 hrs 18 hrs	6 hrs 9 hrs 12 hrs	9 hrs 15 hrs 18 hrs	4.5 hrs 6.25 hrs 9 hrs	6 hrs 12 hrs 15 hrs	3 hrs 5.25 hrs 6 hrs

- Brushing or rollering adds about 20% to drying time (compared to spraying).
- Drying times are doubled at 5°C or at over 75% relative humidity.
- Final drying time before topsealing is a minimum of 16 hours.
- These figures are based on condensation conditions, fluctuations up or down will give variations to the drying time.
- 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 electronic electromagnetic type recorder such as Elcometer 345.

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, Phoenix WBT Acrylic Waterborne Topseal, Phoenix APT Acrylic/Polyurethane Topseal (solvent borne) or Phoenix Acrythane Topseal (solvent borne) can be applied.

Ensure the Phoenix 700-60 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. Phoenix Intumescent Filler may be used for repairing scratches and chips. Once repaired topseal should be re-applied. Refer to Phoenix Maintenance Instructions.

STORAGE

Phoenix 700-60 should be stored internally between 5ºC and 30ºC. Do not store below 5ºC. At temperatures above 25ºC, the shelf life will be reduced. Shelf life is normally 9 months in sealed containers.

TECHNICAL ASSISTANCE

Further assistance can be obtained be calling the Technical Hotline (+852) 2810 6101 or by email – info@phoenixasia.com.hk. Contract Support is available on request.

HEALTH AND SAFTY

Please refer to the Material Safety Data Sheet of Phoenix 700-60.