

# Avikote WB 1200

## Waterborne Basecoat

*Thin Film Waterborne Intumescent Fireproofing for Internal Steel Structure*

### Product Description

**Avikote WB 1200 Waterborne Basecoat** is a white thin film intumescent coating for the fire protection of internal structural steelwork. **Avikote WB 1200** can provide up to 120 minutes fire resistance.

The film, when exposed to fire, intumesces and expands many times to form an insulating char protecting the steel against the high temperature.

### Advantages of Avikote WB 1200

- Fully tested to BS 476 Part 20/21:1987, CE and EN 13381-8
- Up to 120 minutes fire protection
- Solvent free, safe for use in confined space
- Low thicknesses
- Hi-build, single coat application
- Fast drying, reduces application time
- Durable, hard-wearing, smooth finish
- Environmentally friendly

### Product Specification

Specific Gravity	1.37±
Volume of Solid	68% ±2
VOC	28 g/liter
Theoretical Coverage	2.15 liters/m <sup>2</sup> @ 1.5mm DFT

Note: The volume solids content of this material has been measured in accordance with the method laid down in ISO 3223:1998.

### Application Check List

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

#### Ensure that:

- The primer is compatible with **Avikote WB 1200** 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.
- **Avikote WB 1200** 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

**Avikote WB 1200** 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

Arabian Vermiculite Industries has carried out compatibility testing on a wide range of primers and can be contacted on +966 (13) 847 1450 for confirmation of compatibility with **Avikote WB 1200**.

Galvanized surface 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 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 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 **Avikote WB 1200 Waterborne Basecoat**.

**Arabian Vermiculite Industries** should be consulted for technical advice when Zinc rich primers or the overcoating of existing paints are specified for use.

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### Site Conditions During Application

**Avikote WB 1200** is recommended for application and use on dry protected structural steel only. If the basecoat is allowed to get wet, it likely to be damaged – blistering and wrinkling may occur.

**Avikote WB 1200** should only 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 3°C above the dew point. Ensure the steel is dry and free from contact with rain or condensation during the application and drying of **Avikote WB 1200**.

### Application Methods

**Avikote WB 1200** is supplied ready for use and must not be thinned but should be thoroughly mechanically stirred prior to use.

#### Airless Spraying:

**Avikote WB 1200** may be applied up to a maximum wet film thickness (WFT) of 1.2mm 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 **Avikote WB 1200** 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 : 2500-3000 psi
- : (175-210 kg/cm<sup>2</sup>)
- 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 airbrush or roller is 0.6mm. 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.

### Drying Times

Drying of **Avikote WB 1200** 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 temperature can result in condensation on the steel work 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 (0.6mm wft) – Thin coat
- Hours per application (0.8mm wft) – Medium coat
- Hours per application (1.2mm wft) – Thick coat

R/H	Spray	10°C		20°C		30°C	
		Still Air	Air Flow	Still Air	Air Flow	Still Air	Air Flow
30%	Thin	8 hrs	2.5 hrs	4-5 hrs	1.5 hrs	3-4 hrs	1.5 hrs
	Medium	6 hrs	3.5 hrs	6 hrs	3 hrs	4-5 hrs	2.5 hrs
	Thick	12 hrs	4.5 hrs	8 hrs	3.5 hrs	6 hrs	3 hrs
50%	Thin	10 hrs	3 hrs	6 hrs	2.5 hrs	5 hrs	1.5 hrs
	Medium	12 hrs	4-5 hrs	8 hrs	3.5 hrs	6 hrs	3 hrs
	Thick	18 hrs	6 hrs	12 hrs	4.5 hrs	10 hrs	3.5 hrs
70%	Thin	12 hrs	6 hrs	10 hrs	4.5 hrs	8 hrs	3 hrs
	Medium	18 hrs	9 hrs	12 hrs	6.5 hrs	10 hrs	6 hrs
	Thick	24 hrs	12 hrs	18 hrs	9 hrs	12 hrs	7 hrs

- Brushing or rolling 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 constant conditions, fluctuations up or down will give variations to the drying time.

If overnight condensation causes wetting a further fully 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 or an 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, Avikote Topseal can be applied. Ensure the **Avikote WB 1200** 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 Arabian Vermiculite Industries Instructions.

#### **Storage**

**Avikote WB 1200** should be stored internally between 5°C and 30°C. Do not store below 5°C. At temperature above 25°C, the shelf life will be reduced. Shelf life is normally 9 months in sealed containers.

#### **Technical Assistance**

Further assistance can be obtained by calling Arabian Vermiculite Industries (AVI) +966 13 847 1450 or by e-mail: [avi@avi-sa.com](mailto:avi@avi-sa.com).