

CRYSTALITE

Industries

Product Specification

Product: Crystalite High Performance Waterborne Roadmarking Paint

Crystalite's High Performance Waterborne Roadmarking Paint White meets the requirement of AS 4049.3 and is approved by APAS (Australian Paint Approval Scheme) as meeting APAS specification 0041/5 and has been allocated APAS Product ID Number 5506. Crystalite's products are processed under an SAI Global accredited AS/NZS ISO9001:2008 Quality Management System in an APAS Recognized Manufacturing Unit.

All these quality management systems work together to ensure that all batches produced are consistent and meet the customers' requirements and specifications.

Uses

Crystalite Waterborne Roadmarking Paint White is supplied ready for use and is suitable for application to bituminous and concrete roads. It is environmentally friendly with no ozone depleting emissions, is lead free and requires no organic solvents for clean up. Its fast drying time minimises coning and traffic disruption and helps maximize glass bead retention.

Physical Characteristics

Colour : white

Viscosity : 80 - 90 KU @ 25°C

Density : 1.63 - 1.73

Weight Solids (%) : 76.3 – 81.1%

Volume Solids (%) : 61 – 63%

Volatile Organic Compound (VOC) Content : 57g/L

Theoretical Coverage : 3.1 sqm/L at 200µm dry film thickness

2.1 sqm/L at 300µm dry film thickness

No-pick-up Time

When tested the laboratory to AS1580.401.3 the no-pick-up time is less than 2 minutes and 30 seconds. When applied at 325µm wet film thickness and with drop-on beads at the rate of 300 grams per square metre where the application conditions are 25°C, 60%RH and wind velocity of 2-5km/hr then a no-pick-up time of less than 2 minutes is consistently achieved on the road.

Paint Preparation

Crystalite Waterborne Roadmarking Paint White is supplied ready for airless or air atomized spraying. Thinning of the paint is not recommended, however, if thinning is necessary, a small amount of water (1-2%) will greatly reduce paint viscosity. Adding too much water (i.e. >5%) will extend the drying time and promote settling in the paint.

The addition of water is often useful when fast drying is not required or desired i.e. in application by brush or roller or when glass beads and or non-skid aggregate are not applied immediately to the marking. Remember settling could be a problem when water is added and the paint must be stirred before the next application.

Equipment

Crystalite Waterborne Roadmarking Paint White can be successfully applied using airless or air atomized equipment. The desired line width and film thickness can be achieved by varying the gun height, tip size, pump pressure and application speed. All components and surfaces of the application equipment in contact with the paint must be stainless steel, coated metal (epoxy) or plastic. The paint can also be successfully applied with a brush or roller for smaller applications.

Paint heaters can be used to control paint viscosity to provide consistent flow and atomization. Paint must not be heated above 40°C.

Surface Preparation

The road surface to be painted must be dry and free of any grease, oil, dirt, gravel, flaking pavement materials and any loose foreign material. The temperature of the surface should be above 10°C. If the surface has been previously marked or treated (such as the application of curing compounds with concrete) then a compatibility check should be carried out to establish if any surface preparation is necessary.

The use of Crystalite Waterborne Primer/Sealer (Product Code: WPS20) has proven to be successful as a priming coat on surfaces where Crystalite Waterborne Roadmarking Paint White has experienced adhesion problems, particularly on concrete surfaces.

Film Thickness and Application of Glass Beads

The required paint dry film thickness is determined by the size of the glass beads being applied to the marking. It is important that the specified film thickness is achieved in order to maximise the bead retention and the wearing properties of the marking.

- Drop-on glass beads complying with AS2009 applied at the rate of 300 grams / per square metre require a dry film thickness of at least 200µm for optimum retroreflectivity. Crystalite Waterborne Roadmarking Paint White is applied at a wet film build of 325µm when using drop-on glass beads.

- Large glass beads 0.8 - 1.2mm in diameter applied at the rate of 400 grams per square metre require a dry film thickness of at least 300µm for optimum retroreflectivity. Crystalite Waterborne Roadmarking Paint White is applied at a wet film build of 480µm when using these large glass beads.
- To ensure maximum bead adhesion retention the beads must be applied immediately before the surface of the marking begins to skin, then the marking needs to be protected from traffic until it dries.

Increasing Skid and Slip Resistance

Markings other than longitudinal ones (especially those subject to pedestrian traffic) should be treated to increase their skid and slip resistance. This can be achieved by uniformly applying a mixture of 300 grams of drop-on glass beads and 200 grams of 0.15-0.2mm angular quartz aggregate to each square metre of marking. Crystalite Waterborne Roadmarking Paint White is applied at a wet film thickness of 325µm for this application and the beads and aggregate mixture applied immediately to the surface of the marking before it begins to skin. The addition of non-skid aggregate may lower the retroreflectivity of the marking.

Drying Time

The actual drying time of an applied line depends on the thickness of the line and the ambient weather conditions at the time of application.

An increase in the thickness of the line an increase in relative humidity or a decrease in wind speed or temperature can result in a longer drying time. Any addition of water will result in a longer drying time.

Application Conditions

The ideal ambient conditions for the application of Crystalite Waterborne Roadmarking Paint White are air temperature above 15°C, relative humidity below 50% and air movement greater than 10kph. In accordance with the RTA Scientific Laboratory recommendations (reference TD 98-7 Doc 3148), Crystalite Waterborne Roadmarking Paint White should not be applied in the following ambient conditions, where the air temperature is below 10°C, or when the relative humidity is above 85%.

Where Crystalite Waterborne Roadmarking Paint White is applied in ambient conditions between the ideal and the unsuitable then the protection of the painted line may be necessary to avoid pick up and transfer of wet paint and the premature loss of glass beads caused by the vehicle tyres. Application should cease if it is likely to rain within two hours.

Note:

To achieve maximum service life from a marking it should be:

- Applied in as close to ideal ambient conditions as possible
- Applied evenly at the correct film thickness
- Ensured that glass beads and/or non-skid aggregate is applied evenly at the correct rate
- Protected for as long as possible before it is exposed to traffic

Clean-Up

Flush all lines with clean water until the wash water is clear, even a slight haze in the wash water means that all traces of the waterborne paint have not been removed from the system. Do not let waterborne paint dry in the system, as dried waterborne paint is insoluble in most solvent and can be very difficult to remove. Very hot water can be used to soften and aid in the removal of dried waterborne paint.

It is accepted practice to leave the application equipment (tank and lines) filled with waterborne paint as long as the system is well sealed so as to avoid any chance of the paint drying or skinning.

When the application equipment is left standing (overnight or longer) to help avoid skinning a small amount of water can be sprayed on the surface of the paint in the holding tank, only use enough water to provide a thin film on the paint surface. Remember water reduces the viscosity of the paint and promotes settling, so use the minimum amount of water and keep the paint tank full.

Transport

Crystalite Waterborne Roadmarking Paint White is not classified as dangerous goods by the Australian Code for the Transport of Dangerous Goods by Road or Rail (ADG Code).

Storage

Store under cover or in a well shaded area. Rotate stock and use within six months of the date of manufacture.

Packaging

10 Litre plastic pail
20 Litre plastic pail
200 Litre steel drum
500 Litre IBC
1000 Litre IBC

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