

# Polyfam® PR 519C

## Preliminary Technical Data Sheet

### Characteristics

Polyfam® PR 519C is a pure acrylic emulsion specially designed for the manufacture of environment friendly and high performance road marking paints

### Recommended Application Areas

Waterborne road marking paints

### Stabilization

Surfactants

### Specification

These technical data are determined for each batch before its release by our quality control laboratory.

|   | Unit          | Value    | Dev. |
|---|---------------|----------|------|
| <b>Solids content</b><br>(ISO 3251: 1h; 105 °C)   | %             | 49 ±     | 1    |
| <b>Viscosity</b><br>(ISO 2555; Spindle no. 1; 60 rpm; 23 °C)<br>Brookfield-viscometer LVT | mPa.s<br>(cP) | 1500 max |      |
| <b>pH value</b><br>(ISO 976)  |               | 9 ±      | 0.5  |

### Additional Data

These data are solely to describe the product. They are not subject to constant monitoring or part of the specification.

|  | Unit              | Value       |
|--|-------------------|-------------|
| <b>Dispersion</b>  |                   |             |
| <b>Minimum film forming temperature (MFFT)</b><br>(ISO 2115) | °C                | approx 48   |
| <b>Density</b><br>(ISO 2811)                                 | g/cm <sup>3</sup> | approx 1.06 |

### Film \*

#### Appearance

clear tough film with excellent adhesion to the substrate

\* dried under standard atmospheric conditions at 23 °C and 50% relative humidity (EN 23270)

### Applications

Polyfam® PR 519C is a pure acrylic emulsion specially designed as water based binder for the manufacture of environment friendly and high performance road marking paints. It has good pigment binding capacity. The Emulsion paints based on Polyfam® PR 519C have good stability and excellent wet scrub resistance. These paints dry much faster than conventional waterborne traffic paints, even at high humidity with no airflow and exhibit excellent early wash resistance as well as low dirt pick up. In addition, good UV resistance and weatherability make Polyfam® PR 519C an ideal choice for premium quality Road Marking Paints.

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application.

Paints made by Polyfam® PR 519C have some benefits such as being environmentally friendly, reduced disposal cost, easy clean-up, increased worker safety and longer retention of glass beads giving extended retroreflectivity / night time visibility comparing to solvent-borne traffic paints.

They also have other benefits such as extended marking season, excellent early wash resistance, reduced dirt pick up and better paint stability compared to conventional waterborne traffic paints.

## Processing

Polyfam® PR 519C dries at temperatures higher than approx. 48 °C to form clear tough films with excellent adhesion to the substrate.

Polyfam® PR 519C has high pigment binding power, and all pigments used for traffic paints based on Polyfam® PR 519C must be easily dispersed in waterborne paints. The accelerated drying mechanism of Polyfam® PR 519C is initiated by the drop of pH, caused by the evaporation of ammonia. Therefore, it is important that pigments and extenders do not contain high levels of alkaline impurities, preventing the required pH-drop after application.

Phosphonate dispersants are most suitable to give good paint stability, without affecting the early water resistance. Other dispersants based on sodium salt of a polyelectrolyte, such as Polyfam® 101, might be used after evaluation. The optimum level of dispersant depends on the choice of pigments and extenders. To evaluate the optimum level of dispersant, we recommend testing levels of 0.4%, 0.5% and 0.6% solid dispersant calculated on dry pigment.

Waterborne traffic marking paints based on Polyfam® PR 519C require the addition of coalescing solvents to obtain good film formation, particularly at lower application temperatures. We recommend 20% Texanol, calculated on polymer solids, to coalesce traffic marking paints based on Polyfam® PR 519C down to 5°C. Lower levels may compromise performance and durability, especially if the paints are applied at low road surface temperatures. Higher levels may compromise paint stability. The use of more water miscible solvents (like Butyl carbitol) as a sole coalescent is not recommended.

Ethanol is added to paints based on Polyfam® PR 519C to impart freeze-thaw stability, but also to optimise “dry-to-no-pick-up” times.

Excessive foam in the paint will increase the apparent viscosity and lead to problems with gel formation. It is important to avoid silicone based defoamers, since they may adversely affect the adhesion of the paint to the reflective glass beads. Alternatives should be evaluated for specific paint applications.

## Preservation and Storage

The dispersion contains some initial preservatives to prevent attack by micro organisms. In order that the product is also sufficiently protected against microbial contamination during further storage in opened drums or storage tanks, a suitable preservative should be added despite our preliminary preservation measures.

Prior to use, Polyfam® PR 519C should be stored for no longer than six months at temperatures as constant as possible between 5 and 35 °C and must be protected from frost and direct exposure to sunshine. Furthermore it must be ensured that already opened drums or containers are always tightly closed.

The technical data ascertained by our quality control laboratory at the time of product release, may vary according to the storage conditions and may deviate from the stated limits.

## Industry Safety and Environmental Protection

Not a hazardous substance.

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