POLYURETHANE DISPERSION – SM 3251

DESCRIPTION:

SM 3251 is an anionic dispersion of an Aliphatic Urethane Polymer in Water/Ketone.

FORM OF DELIVERY:

30 ± 2% IN Water / MEK

Neutralizing Agent:

Tri-Ethyl Amine (TEA)

USAGE:

SM-3251 is a polyurethane dispersion with shear stability and pigment compatibility that cures at room temperature giving very highly flexible crack-free films.

This allows SM-3251 to be used to formulate highly flexible coating systems, especially for coating of Plastics. Such system exhibits very good adhesive properties.

The property of High Flexibility along with Polyurethane's inherent properties of abrasion, impact and chemical resistance is of an advantage in coating for concrete and masonry substrates.

Hard wearing abrasion, impact, and chemical resistance, weatherable exterior durable coating for concrete and masonry substrate can be formulated using SM-3251 and/or blends with other compatible emulsion.

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Depending upon the specific requirement it can be used in Basecoats and in one-coat systems. However, the adhesion properties to each substrate require individual investigation.
In addition, SM-3251 can be used together with other compatible binders to improve the elasticity and flexibility.

TYPICAL PROPERTIES:

Appearance	**Translucent Liquid**
% Solid	**30 ± 2%**
Co- Solvent	**Methyl Ethyl Ketone (MEK)**
PH	**7.5 to 8.5**
Viscosity @ 30°C, Ford Cup B4	**30 ± 10**
Solvent Content: wt% Water : Methyl Ethyl Ketone	**85 : 15**
Weight per Litre - Kg.	**0.98**
Acid Value	**21 – 22**

PROPERTIES AND APPLICATION:

SM-3251 is flexible, Polyurethane Dispersion that cures at room temperature giving clear impact resistant films. This allows SM-3251 to be used in the formulation of the flexible coating systems, especially for coating plastics and mineral substrates. Such systems exhibit very good adhesive properties to several plastics. However, the adhesion to each plastic substrate requires individual investigation.

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SM-3251 has fair to good resistance to many solvents and chemicals; especially those used in common cleaning agents and detergents. This property coupled with abrasion and impact resistant properties of SM-3251 allows it to be used as the sole binder or in combination with other compatible binders in the formulation of several coatings for concrete and masonry surfaces, "Anti-Bacterial Hygiene Coatings" being one of its speciality applications. Adhesion's properties of SM-3251 to different substrates can be further improved by the addition of cross-linking resins.

FORMULATION:

Sand mills are suitable as grinding equipment. During grinding, the temperature of the mill base should not be allowed to exceed 45°C to 50°C.

The volume of the grind is often a small fraction of the total paint. This necessitates a two-tank/kettle operation. The pigments, fillers, additives are dispersed in one tank/kettle with SM-3251, other emulsions, if any and thickener mixed in the other tank/kettle. The dispersed pigments, etc. are then added to the let-down. A one tank/kettle manufacturing process is also possible if the bulk of the binder mixture is added in the grind. This also will require adding some thickener to adjust grind consistency for proper dispersion of pigments.

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To improve shear stability during pigment dispersion, the pH of the binder should be adjusted with ammonia between 8.5 and 9.5. Use suitable antifoam to reduce foam produced during grinding. It is also suggested that coating is allowed to stand for period of 24 to 48 hours prior to use.

STORAGE:

SM-3251 should be stored in its sealed original containers at temperature not below 25°C. If stored under these conditions, the product will remain stable for a period of about six months from the date of manufacture. If the containers were not being sealed properly, the evaporation of water will cause the formation of a film that cannot be dispersed.

SM-3251 SHOULD BE STIRRED BEFORE USE.

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