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Product Information

Acronal® ECO 7031

Aqueous polymer dispersion for the manufacture of high scrub resistance low odor & VOC architectural paints

Acronal® ECO 7031 is an APEO free anionic polymer dispersion with a medium viscosity. It consists of small, finely divided particles and very high binding power for pigments and extenders therefore making it an excellent binder with superior scrub resistance. Using Acronal® ECO 7031 to formulate high scrub resistance low odor & VOC paint..

Chemical Nature:

Aqueous butyl acrylate / styrene copolymer dispersion

Benefits

- Formulation of low odor environmental friendly paint
- Excellent scrub resistance
- Good efflorescence and alkali resistance paint

Features

- Odorless polymer dispersion
- High binding power
- Outstanding water and alkali resistance
- APEO Free

Properties

Product specification*	Solids content	%	48 ± 1
	pH value	pH	6.0 – 8.0
	Viscosity at 23 °C, RVT Sp2/20 rpm (DIN EN ISO 2555)	mPa·s	400 – 1500
Other properties of dispersions	Minimum film-forming temperature (ISO 2115)	°C	< 5
	Density (ISO 2811-1)	g/cm ³	approx. 1.04
	Resistance to frost	°C	≤ 0
	Type of dispersion		anionic

*The aforementioned data shall constitute the agreed contractual quality of the product at the time of passing of risk. The data are controlled at regular intervals as part of our quality assurance program. Neither these data nor the properties of product specimens shall imply any legally binding guarantee of certain properties or of fitness for a specific purpose. No liability of ours can be derived therefrom.

Note

The information submitted in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

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Applications

Areas of application

The main field of application for Acronal® ECO 7031 is as a binder for medium PVC low odor & VOC interior paints with good scrub and alkali resistance.

Processing

Products formulated with Acronal® ECO 7031 can be made up in the usual manner with a high speed mixer. Dispex® CX 4320 is recommended for dispersing titanium dioxide pigments in propylene glycol or propylene glycol/water. Dispex® AA polyacrylate types can be used as a co-dispersant or the sole dispersant, particularly if high levels of calcium carbonate are used.

Associative thickeners, e. g. Rheovis PE 1332, PU 1280 and PU 1191, are particularly suitable for adjusting the viscosity and flow, because they do not give rise to a yield point in the rheological characteristic. Acronal® ECO 7031 displays very high response to associative thickeners. These thickeners may be combined with hydroxyethyl cellulose or modified cellulose thickeners in order to reduce any tendency of sagging and to prevent pigment flocculation, although cellulose based thickeners may reduce the stain and wash resistance of the paint. Like all dispersions Acronal® ECO 7031 tends to foam, with the consequence that it generally necessitates the addition of a defoamer like FoamStar® ST2410 in proportions of 0.2 - 1%.

A coalescent is required to ensure satisfactory film formation. Water miscible glycol ethers are particularly suitable for this purpose. Examples of other suitable coalescent are Texanol® (Eastman Chemical Company), Solvenon® DpNB (BASF) and Loxanol® CA 5308 (BASF) . Generally 4% wet on wet dispersion is required to ensure the film coalesces at 5 °C. As with all polymer dispersions care should be taken when adding solvents so as to not cause coagulation. If a low odor or low VOC paint is to be formulated then care should also be taken in the selection of the coalescent solvent.

Propylene glycol is suitable for increasing the wet edge time but temporarily impairs the resistance to blocking and increases the sensitivity to water.

Preservatives should be added to products made up from Acronal® ECO 7031 ap, in order to ensure adequate protection against microbial attack during long storage periods. Their compatibility and effectiveness however should be tested also.

Tinting and color can be achieved using standard pigments used in Architectural coatings, including BASF's range of Xfast® easy disperse pigment powders and Luconyl® pigment pastes. In all cases the compatibility with and effects on the performance of the coatings should be thoroughly checked.

Paints formulated without non ionic surfactants and using Acronal® ECO 7031 will still display good tinter acceptance. This is due to the surfactants used in the Acronal® ECO 7031. Removal of the non ionic surfactants from standard formulations will decrease the water sensitivity of the paint and improve the stain and wash resistance. Surfactants should only be added in if tests show them to be required (e.g. poor tinter acceptance).

The stain, burnish, wash and scrub resistance of Acronal® ECO 7031 can be improved with good formulating. Our technical department has extensive experience in this area and starting point formulations using Acronal® ECO 7031 are available from BASF.

Manufacturers must perform their own careful tests in developing products containing Acronal® ECO 7031, because tests on our part cannot embrace the great variety of factors that may influence results during manufacture and application, e. g. the mutual compatibility of the ingredients, the mixing mechanisms, and the adhesion to various substrates. Testing should include storage at ca. 50 °C in order to ensure that the viscosity remains stable at this temperature.

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Safety

General

The usual precautions for handling chemicals must be observed. These include the measures set out in the guidelines of the organisations responsible for safety at work, in particular, good ventilation and fume extraction at the workplace, care of the skin and the wearing of eye protection.

Safety Data Sheet

When using this product, the information and advice given in our Safety Data Sheet should be observed. Due attention should also be given to the precautions necessary for handling chemicals.

Labeling

According to all the data at our disposal, **Acronal® ECO 7031** does not need to be labelled as a dangerous substance or preparation as defined in the relevant local directives according to their current status.

Storage

Acronal® ECO 7031 must not be allowed to come into contact with metals or alloys that are susceptible to corrosion. It is very important to ensure that containers are kept tightly closed or that the airspace in storage tanks is kept saturated with water vapor. Exposure to frost or sources of intense heat must be avoided.

Acronal® ECO 7031 contains sufficient preservative for transportation. More preservative must be added during subsequent storage to protect the material against microbial attack and tank hygiene measures must be adopted (cf. our Technical Information Bulletin "Storage tanks for polymer dispersions").

Acronal® ECO 7031 has a shelf life of approximately nine months from date of manufacture at temperatures between 10°C to 30°C.

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