

Acronal[®] S 760 na

Chemical Nature

Self-crosslinking, acrylic-styrene copolymer dispersion for use in aqueous anticorrosion paints and primers.

Properties

Typical Properties

Solids content, weight	%	49.0 – 51.0
pH		8.5 – 10.0
Viscosity at 23 °C (Brookfield RV, Spindle #4, at 50 rpm)	mPa s	100 – 550

Other properties of the dispersion

Apparent viscosity at 23 °C (Brookfield RVT, Spindle #2, at 20 rpm)	mPa s	ca. 1000
Density	lbs/gal g/cm ³	ca. 8.76 ca. 1.05
Film-forming temperature	°F °C	ca. 72 min. ca. 22
Dispersion type		anionic
Plasticizer content		free from plasticizer
Sensitivity to frost	°F °C	below 32 below 0

Properties of the film

Density	g/cm ³	ca. 1.05
Mechanical strength*		
Tensile strength	psi N/mm ²	ca. 1800 ca. 12.8
Elongation at break	%	ca. 300
Appearance		transparent, colorless
Surface		tack-free

*This figure should be taken for comparison purposes only. All that can be obtained from it is an idea of the order of magnitude concerned.

Application

Fields of application

Acronal S 760 na is a styrene acrylic latex polymer that is self-crosslinking and offers flash rust resistance, reactive pigment compatibility, excellent long-term durability, and under-film corrosion protection. Acronal[®] S 760 na latex is ideal for use in direct to metal (DTM) primers, topcoats, and industrial maintenance paints.

The main application for Acronal S 760 na is aqueous anticorrosion systems. The primers are formulated with chemically active anticorrosion pigments.

Paints can also be formulated for substrates that normally can cause difficulties (i.e., zinc and aluminum).

Pigmented coatings can be readily sanded if appropriate care has been devoted to the selection of the extenders. This property can be exploited in formulating primers.

Processing

Aqueous anticorrosion paints and primers can be made up with the aid of solvents and bead mills.

It is important to add the individual ingredients of the formulation in the right sequence, because this ensures optimum viscosity and minimum foam. Details are given in the typical formulations which we compile. The proper selection of dispersant is extremely important for long term stability when using anti-corrosive pigments.

The minimum film-forming temperature for Acronal® S 760 na is of the order of 72 °F (20 °C). If the paints are likely to be applied at lower temperatures, coalescents in proportions of 2-4% are usually required to ensure a homogeneous coating. Mixtures of Butyl Carbitol and Butyl Cellosolve can be blended at different ratios to give the desired application and cure rates.

The viscosity and flow can be regulated by thickeners. Particularly good results from the aspect of corrosion protection can be obtained with diurethane thickeners. Newtonian flow and good levelling can be achieved if water-miscible solvents (i.e., Butyl Carbitol and Butyl Cellosolve), are present. The proportion of thickeners in aqueous anticorrosion paints should not exceed 1%, expressed as solids in terms of the binder.

Acronal® S 760 na is readily compatible with most anticorrosion pigments, particularly those derived from zinc borate and zinc phosphate. The viscosity may increase slightly during making up as a result of a restricted reaction between the polymer dispersion and the pigment, but can be kept under control if the ingredients of the formulation are added in the recommended sequence. It does not have any adverse effect on the shelf life.

In the formulation of aqueous anticorrosion paints, preference should be given to chromatic pigments in powder form, because aqueous preparations entail that additional water-soluble auxiliaries are incorporated.

Finely dispersed extenders (i.e., crystalline calcium carbonate, barium sulfate and silanised wollastonite), give excellent performance in Acronal® S 760 na metal primers. Laminar fillers are not very suitable.

In any event, adequate amounts of dispersants (i.e., Pigment Disperser NL or A), must be added.

Defoamers and preservatives should be included in the formulations in the proportions recommended by the manufacturer. Their compatibility and efficiency is best checked by prior experiment.

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Acronal S 760 na.

Storage

Storage should be in accordance with the "Handling and Storage of polymer dispersions" brochure. Technical information regarding the storage of BASF polymer dispersion products is available upon request.

Important

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