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Acronal® S 430 P

Redispersible polymer powder which is mainly used to modify hydraulic binders such as cement, lime and gypsum, and to manufacture flexible coatings

Chemical nature

Redispersible polymer powder based on an aqueous, anionic dispersion of a copolymer of an acrylic ester and styrene, free of plasticizers

Properties

Product specification

Acronal S 430 P is a slightly yellowish polymer powder. It does not contain any plasticizers or film-forming agents. It is easy to disperse in water by vigorous stirring.

Solids content (ISO 3251, T. 2-D)	%	≥ 98.0
pH (ISO 976, 30 % w/w in water)		7.2 – 8.2

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.

Other properties

Appearance		Slightly yellowish powder
Bulk density (DIN ISO 60)	kg/m^3	approx. 450 – 550
Minimum film-forming temperature of redispersible powder (ISO 2115, DIN 53787)	°C	< 1
Glass transition temperature T_g of polymer film (DSC)	°C	approx. – 15

The information presented here on the properties of the product and the films that it forms is only intended as a guide to processing. It does not constitute the agreed product quality or a gurantee of certain properties. These properties are not monitored regularly as part of our quality assurance procedures.

Application

Areas of application

Acronal S 430 P is mainly used to modify hydraulic binders. Because it has a low glass transition temperature and high elasticity, it can be used to reduce the elastic modulus of mortars and increase their elongation at break, their abrasion resistance and their adhesion. It provides a large increase in flexibility, even at temperatures below 0 °C. The special additive system employed in Acronal S 430 P ensures excellent workability, a long pot life and no cracking when the mortar sets. This product is completely free of cellulose derivatives and inorganic extenders.

Acronal S 430 P can be added to dry powders that are employed as construction adhesives and in cementitious waterproofing systems. Its high binding strength and rapid redispersibility also allow it to be used in formulations in which the polymer acts as the main binder or the sole binder.

Examples of cementitious waterproofing systems include flexible waterproofing slurries for balconies, patios and cellars. Up until now, most of the products on the market have been two-component systems which were often based on Acronal S 400. With Acronal S 430 P, it is now possible to formulate single-component powder products with exceptionally high flexibility and good adhesion on difficult substrates.

Acronal S 430 P can be used in highly flexible ceramic tile adhesives which do not fail even if they are exposed to large fluctuations in temperature outdoors. Single-component products formulated with Acronal S 430 P also perform very well on substrates that are subject to movement such as wooden floors, because these demand very flexible tile adhesives. Acronal S 430 P can also be used to improve the properties of adhesive sealants.

Processing

We recommend adding 20 – 30 % Acronal S 430 P to mortars and 80 – 150 % to flexible cementitious coatings, expressed as a proportion of the cement.

Dry mortars that contain Acronal S 430 P can be mixed with the usual equipment but, because this product is thermoplastic, care must be taken to ensure that the heat generated by shear when the dry components are mixed is not excessive.

Acronal S 430 P swells when it is solvated in alkaline systems that incorporate hydraulic binders. It quickly takes effect when water is added, and it does not need to be left for a long time to ripen.

The rheology of the end product can be adjusted to suit individual applications by adding conventional thixotropes such micronized silica or cellulose derivatives.

Customers have to carry out their own trials when developing and processing products based on Acronal S 430 P. The compatibility of Acronal S 430 P with other ingredients of formulations, mixing processes, and its adhesion on different substrates, etc., are affected by a variety of factors which are too numerous for us to take into account in our own trials. This also includes testing the stability of its viscosity when it is stored at temperatures of approx. 50 °C.

Safety

General

The usual safety precautions when handling chemicals must be observed. In particular, the place of work must be well ventilated if large quantities are being processed, the skin should be protected, and safety glasses should be worn at all times.

Safety Data Sheet

A Safety Data Sheet has been compiled for Acronal S 430 P that contains up-to-date information on all questions relevant to safety.

Labelling

According to all the data at our disposal, Acronal S 430 P does not need to be labelled as a dangerous substance or preparation as defined in the relevant European Union directives (substances directive 1967/548/EC and preparations directive 1999/45/EC) according to their current status.

Storage

Acronal S 430 P has a shelf life of six months if it is stored in a cool, dry place. The contents of bags that have been opened should be used up as quickly as possible, as otherwise contact with moisture can cause lumps to form. Because Acronal S 430 P is thermoplastic, care must be taken to ensure that it is not subjected to high temperatures or high pressure because this can also cause lumps to form. It has a negligible tendency to form lumps when it has been mixed into dry mortars.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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