We create chemistry

Acronal® NX 3587

Chemical Nature	**Aqueous acrylate copolymer dispersion for the manufacture of flexible coating compounds**

Properties

Typical Properties	Solids content	%	ca. 54 – 56
	pH		ca. 7.0 – 8.0
	Viscosity at 73 °F (Brookfield RV, Spindle #4, at 100 rpm)	mPa s	ca. 200 – 500
Other properties of the dispersion	Density	lbs/gal	ca. 8.63
		g/cm³	ca. 1.04
	Film-forming temperature	°F	ca. >32 min.
		°C	ca. >0 min.
	Dispersion type		Anionic
	Plasticizer content		Free from plasticizer
	Sensitivity to freezing	°F	below 32
		°C	below 0
Properties of the film	Density	g/cm³	ca. 1.06
	Glass transition temperature Tg (DSC)	°C	ca. -5
	Water absorption (After 24 hours immersion in water)	%	ca. 9.0
	Mechanical strength*		
	Tensile strength	psi	ca. 600
	Elongation at break (at 23 °C)	%	ca. 500
	Appearance		clear, transparent
	Surface		slightly tacky

* The above values should not be taken as specification

Application

Fields of application

Acronal NX 3587 may be used for the production of flexible coating compounds. Such coatings may be used for the sealing of concrete roofs and the protection of polyurethane insulation foam, rolled roofing felts or asphalt roof systems against the effects of weathering. For areas where permanent water loading is anticipated or the slope is <2 °, Acronal NX 3587 is not recommended.

Processing

Acronal NX 3587 was developed to provide asphalt bleed through resistance when used as a Flexible Roof Coating over an asphalt roof. In addition, it contains internal crosslinking agents that crosslink the polymer film at room temperature after the water has evaporated. This crosslinking occurs both on the surface and through the coating to give good elastic film properties with only a slightly tacky surface. These aids in the resistance of the film to dirt pick up and retain good reflectivity.

Acronal NX 3587 is a mechanically stable anionic dispersion that can be pigmented and formulated into flexible coatings as shown in Table 1. This includes mixtures prepared with the dispersion in the grind (#1 through 3) or as an addition to pigment dispersion (#4).

Table 1

Formulation Number:	1.	2.	3.	4.
Raw Materials		Weight %		
Water	6.88	6.81	6.81	14.79
Propylene glycol	2.23	2.24	2.24	2.08
30% Pigment Disperser® NL[1]	0.45	0.45	0.45	0.42
Acrylic Dispersion[1]	28.45	28.53	28.52	0.00
BYK 035[2]	0.45	0.45	0.45	0.45
Iconol NP-40[3]	0.00	0.00	0.00	0.13
Natrosol 250 MXR[4]	0.00	0.00	0.00	0.06
Kronos 2101[5]	11.17	11.20	7.83	10.18
Kadox 915[6] (Zinc oxide)	0.00	0.00	3.41	0.00
Duramite[7]	26.36	21.92	21.91	24.31
Atomite[7]	1.34	5.94	5.94	1.25
Omyacarb UFT[8]	0.00	7.94	7.93	0.00
Microtalc MP 10-52[9]	8.27	0.00	0.00	7.48
Proxel GXL[10]	0.22	0.22	0.22	0.21
Acrylic Dispersion	12.78	12.81	12.81	37.78
Natrosol 250 MXR	0.34	0.34	0.34	0.34
Ammonia	0.23	0.23	0.23	0.23
BYK 035	0.91	0.92	0.92	0.91
Totals	100.00	100.00	100.00	100.00
Weight % solids (ca.)	72	72	72	66

Mix ingredients in the above order until smooth.

Mixture Properties:		
	PVC (%)	~ 42
	Viscosity (Krebs)	~ 105
	Volume % solids	~ 59

Suppliers for ingredients shown in Table 1.

[1] BASF Corporation, Charlotte, NC
[2] BYK-Chemie USA, Wallingford, CT
[3] BASF Corporation, Performance Chemicals, Mount Olive, NJ
[4] Aqualon, A Div. of Hercules Inc., Wilmington, DE
[5] Kronos, Inc., Houston, TX
[6] Zinc Corporation of America, Monaca. PA
[7] Imerys; or Distributor Fitz Chem Corporation, Itasca, Il
[8] Omya, Inc., Alpharetta, GA
[9] Barretts Minerals, Easton, PA
[10] Zeneca Biocides, Wilmington, DE

Acronal NX 3587 is a new development polymer from BASF to address many concerns in the Flexible Roof Coating industry. First it is a pure acrylic polymer which contains crosslinking functionalities which not only improve polymer tensile properties but improve substrate adhesion properties as well. Second is that the Acronal NX 3587 was developed to address asphalt bleed resistance when applied as a white coating over an asphaltic substrate. The Acronal NX 3587 shows virtually no asphalt bleed-through when tested under both UV and Heat (50 ºC) conditions. Third is that the Acronal NX 3587 when compounded into a typical 42 pvc Flexible Roof Coating formulation shows very low water absorbance values of approximately 5% for a 7 day exposure. Acronal NX 3587 has typical neat polymer tensile properties of 600 psi with 500% elongation.

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 NX 3587.

Storage

Please refer to the “Handling and Storage of Polymer Dispersions” brochure.

Important

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