

Construction

Technical Data Sheet

Acronal[®] 4848



Chemical Nature

Acrylic Dispersion for High Performance Elastomeric Roof Coatings

Properties

Typical properties

Solids content	%	ca. 55
pH		ca. 8.5
Viscosity at 25°C (Brookfield RV, Spindle #2, at 100 rpm)	mPa s	ca. 200

Other properties

Density	lbs/gal g/cm ³	ca. 8.5 ca. 1.02
Dispersion type		Anionic
Sensitivity to freezing	°F °C	below 32 below 0

Applications

Field of application

While traditional elastomeric acrylic roof coatings fulfil many of the desired properties for roof coatings, they lack the outstanding exterior durability required for coatings applied in areas prone to hail, excessive dirt pick-up, and where high foot traffic is encountered. Roof coatings applied in such areas not only must meet the challenge of strong durability, with a tough coating surface, but also must meet all of the other attributes for elastomeric coatings, such as low temperature flexibility, good adhesion to roofing substrates and above all must have excellent retention of elastomeric properties upon weathering.

Acronal[®] 4848 polymer is designed via a unique selection and combination of key monomers, along with an innovative self-crosslinking chemistry to allow the formulator to design high performance, durable coatings for challenging weather conditions.

High performance roof coatings with Acronal[®] 4848 can be designed to have the following features:

- Strong mechanical properties with a balance of high tensile and high elongation
- Excellent retention of mechanical properties upon extended weathering
- Excellent durability and high solar reflectivity for reduced roof temperatures & energy efficiency
- Enhanced resistance to hail relative to conventional elastomeric polymers
- Good adhesion to many roofing substrates
- Good dirt pick-up resistance
- Excellent low temperature flexibility
- Compatible with BASF's Quick-Trigger Technology to achieve Early Rain Resistance

Acronal[®] 4848 distinguishes itself from other polymers targeted for similar applications, in that, it has the unique ability to retain its mechanical and elastomeric properties upon extended weathering, while other polymers lose a significant portion of their elongation when weathered only for a very short period of time. Even with its superior retention of elasticity upon weathering, Acronal[®] 4848 offers comparable dirt pick-up resistance upon weathering, relative to other polymers in its class. Further, early rain resistance with high performance coatings formulated with Acronal[®] 4848 can readily be achieved by using appropriate amounts of BASF's Quick-Trigger 4333 additive.

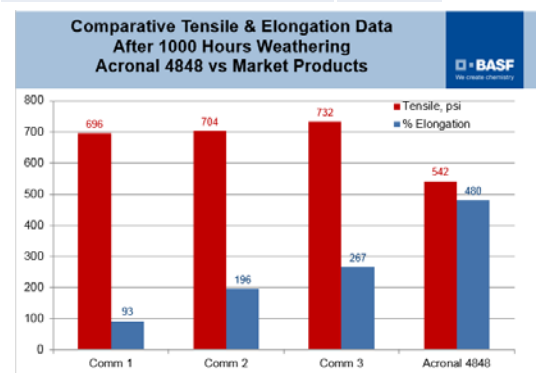
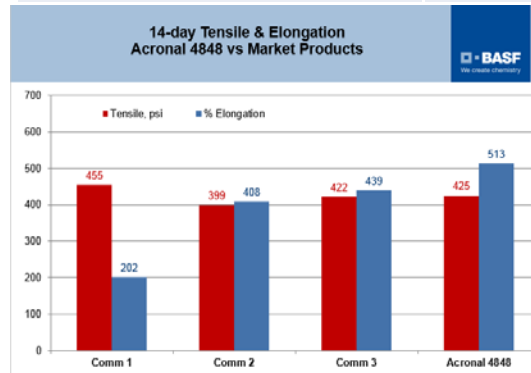
For areas where permanent water loading is anticipated or the roof slope is < 2°, roof coatings containing Acronal[®] dispersions are not recommended.

Formulation

The following guiding formulation is provided in good faith to highlight the performance attributes of a high performance roof coating with Acronal® 4848. BASF is a raw material supplier and not a developer of roof coatings. Development of the formulation, and subsequent testing to determine its fit for use and application on roofs is the responsibility of the end user.

High Performance Roof Coating Guiding Formulation:

Pigment grind	lbs.	Gal.	Supplier
Water	103.24	12.39	
Dispex 4144 Dispersant	4.33	0.42	BASF
Propylene Glycol	5.90	0.68	
KTPP Dispersant	0.98	0.05	
Foamaster MO NXZ Defoamer	2.46	0.35	BASF
SB-432 Aluminum Trihydrate	270.40	13.41	
Ti-Pure R-960 Titanium Dioxide	49.16	1.47	
Atomite Calcium Carbonate	33.92	1.50	
Kadox 915 Zinc Oxide	29.50	0.63	
Total for pigment grind	499.89	30.91	
Letdown			
Acronal® 4848 Acrylic Polymer	560.12	65.25	BASF
Foamaster MO NXZ Defoamer	1.97	0.28	BASF
Texanol Coalescent	6.39	0.81	
Ammonia	1.97	0.26	
Natrosol 250 MXR (mix w/PG)			
Thickener	3.54	0.33	
Propylene Glycol (Mix w/250) Solvent	8.85	1.02	
Water	9.44	1.13	
Total for Coating	1092.16	100.00	
Properties:			
Solids by weight	66.22%	14d-Tensiles	425
Solids by volume	55.81%	14d-Elongation	513
pH	8.7	Tear Resistance	119
Density, lbs/gal	10.93	Permeance, Inverted	10.8
Viscosity, KU	115	% Water Swell	13
PVC	33	Solar Reflectance	0.85
		Flexibility at-15F, ½ inch Mandrel	Pass



Key Performance Features

- Acronal® 4848 can be formulated to produce tough, durable, elastomeric & hail resistant roof coatings
- Compared to competitive product offerings, Acronal® 4848 retains its elastomeric properties even after weathering.
- Acronal® 4848 also provides excellent dirt pick-up resistance upon weathering
- Acronal® 4848 adheres well to polyurethane foam and several other roofing substrates
- Roof coatings formulated with Acronal® 4848 and BASF's Quick-Trigger 4333 can achieve early rain resistance even when applied under aggressive climate conditions
- Roof coatings formulated with Acronal® 4848 meet ASTM-6083 and California Title 24 protocols

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 work place, good skin care, and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Acronal® 4848.

Storage

Acronal® 4848 has a shelf life of six months from delivery date, provided it is stored 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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