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Technical Data Sheet

AHA2199

Matting hardener for epoxy and hybrid powder coatings

Description

AHA2199 is a kind of novel matting hardener designed for epoxy and hybrid powder coating to provide dead matte effect. The lowest gloss of resulting powder coating may be reduced to approx. 0 (60°). Thus, also it is recommended as an alternative of salt typical matting hardener XX68. It also could be used to formulating LTC (Low temperature curable) matte hybrid powder coatings.

Typical properties

Appearance	[visual]	Slightly yellow powder
Melting Point (°C)	[DSC]	90-115
Combined weight with epoxy (equivalent weight)		200-240
The weight mix ratio to epoxy		1:4
Volatiles (%)		≤1.5

Application

AHA2199 is recommended as an alternative of salt typical matting hardener used in pure epoxy and/or hybrid powder coatings to provide the dead matte finish, but 70/30 hybrid system is preferably.

The mix ratio 1:4 parts by weight of **AHA2199** with solid epoxy resin like as E12 (EEW750-850)

Advantages:

- The extreme low gloss approaching 0 level
- Excellent flow & mechanical properties
- High color stability of the film
- High film hardness & anti-scratch

Gloss reproducibility

It has now been observed that some certain processing conditions have an adverse effect very sharply on gloss reproducibility, especially extrusion temperatures. Therefore, it is fatal how to precisely control to extrusion temperatures. Once a higher-than-expected gloss

obtainable occurs in either laboratory or production, you should be considerable to reduce the temperature of the extruded coating as a solution.

Starting formulations

Composition	Part by Weight						Remark
	White	Black	White	Black	White	Black	
	240	240	/	/	/	/	*70/30*
Polyester	/	/	200	200	/	/	*60/40*
	/	/	/	/	170	170	*50/50*
E-12	344	344	380	380	410	410	*Epoxy*
AHA 1088P	10	10	10	10	10	10	*Flow modifier*
Barytes	150	350	150	350	150	350	
TiO2	200	/	200	/	200	/	
Carbon Black	/	6	/	6	/	6	
AHA 4100	6	6	6	6	6	6	*Benzoin*
AHA 2199	60	60	60	60	60	60	*2199 to epoxy 1:4*
Total	1010	1016	1006	1012	1006	1012	
Cure Cycle	200°C/15min						
Typical technical data:							
Use level (max.)	6%	6%	6%	6%	6%	6%	
Gloss%,60°	4.4	2.6	5.1	10	3.8	2.8	
Film thickness	70μm	70μm	60μm	80μm	70μm	90μm	
Impacts (D&R):	+/-	+/-	+/-	+/-	+/-	+/-	
PCI level:	6	6	6	6	6	6	
Appearance:	Micro Rough						

Use levels

5-10% by weight, calculated on total formulation depending on the gloss required.

Curing schedule

200°C/15min (metal temperature)

Process

Pre-mixing with other ingredients together, then homogenized in a heated extruder.

Shelf life

Based on our experience the shelf life of this product is at least within one year from date of manufacture. For older than this period, it is recommended to re-check the performance.
Note: *A color change occurs during the stored procedure, but does not affect the application.*

Storage & Notice

Store in temperature between 2 and 35°C or cool dry place to avoid wetting-absorption.
Keep package closed after using.

Handling & Precaution

Avoid contact with eyes and skin. Avoid breathing dust. Wash after handling.
For further information, please refer to the SDS

Regulatory status

AHA2199 complies with TSCA (USA), DSL/NDSL (Canada) and IECSC(China).

Package

Packaged in craft paper bag with polyethylene liner. Net weight 25 Kg per bag.

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