

Product data sheet

ZEFFLE GK-571

High Performance Fluoropolymer Solution for Coatings

ZEFFLE GK-571 is a solvent based fluoropolymer solution that provides excellent weatherability and chemical resistance in coatings. It is typically used for coil coating.

Characteristics

- Copolymer of tetrafluoroethylene, hydrocarbon olefins with pendant OH groups
- Curable with isocyanate (room temperature ~ 230°C)
- Curable with melamine if hardness is a priority (130°C ~180°C)

Coatings using ZEFFLE GK-571

- show excellent weatherability, corrosion & chemical resistance, dirt removability
- offer a wide range of color and gloss
- can be applied using spray, brush, dip, roll or coil coating

Physical Properties

Composition	butyl acetate and Solvesso 100 solution of fluoropolymer
Appearance	clear liquid (light yellow)
Polymer content, mass%	~50%
OH value	~60 mg KOH/g of polymer
Acid value	~3 mg KOH/g of polymer
Tg	~30°C
Specific gravity at 20°C	~1,1
Viscosity	50 - 1000 mPa·s (B-type viscometer)
Flash point, closed cup	44°C
Solubility	soluble in ketone (MEK, MIBK, etc.), ester (ethyl acetate, butyl acetate, etc.)

Table 1: Typical properties are not suitable for specification purposes.

Formulation example for 2-pack finishing system

1. Preparation

Adding rate of additives can be changed depending on product grade used, purpose, etc.

Mill base

Ingredient	Mass%
ZEFFLE GK-571 (non-volatile: 50 mass%)	26,3
D918 (rutile type TiO ₂) ¹	26,3
Butyl acetate	10,5

High speed grind with glass beads

Letdown

Ingredient	Mass%
Mill base	63,1
ZEFFLE GK-571	36,9
Butyl acetate	0
Total	100

Paint formulation

Ingredient	Mass%
Component 1	100
Desmodur N3300 (polyisocyanate) ²	6,5
Total	106,5

Tables 2-4: Formulation using TiO₂ and hardener: Desmodur N3300

2. Application method

ZEFFLE GK-571 base coating can be applied by general methods such as spray, brush, roller, etc.

3. Dry & cross-linking condition

As a rough guide, reaching full cure takes 2 minutes at 230°C, 1 hour at 80°C or 7 days at ambient temperature.

¹Alternative rutile type TiO₂ pigments:

- D918, Sakai Trading Europe
- TIPURE R960, Chemours
- Kronos 2160, KRONOS TITAN
- TITANIX JR-805, TAYCA Corp

²Alternative polyisocyanate hardener:

- Desmodur N3300, Covestro
- Desmodur N3600, Covestro
- Desmodur N3900, Covestro
- Duranate TPA-100, Asahi Kasei Europe

The quantity of polyisocyanate to be added has to be changed depending on the product used due to different NCO mass content.

Film properties

Representative data: white pigmented film, coated on surface treated aluminum panel

Item	Method	Result	Remark
Gloss	ISO 2813	82	60° gloss
Pencil hardness	ISO 15184	H	
Adhesion	ISO 2409	Pass	1mm cross cut, 25/25
Solvent resistance	ASTM D4752	No change	100 times of double rub with butyl acetate
Water resistance	ISO 2812-1	Appearance: No change Adhesion: Pass	Immersion for 7 days at 50°C
Chemical resistance	ISO 2812-1	5% H ₂ SO ₄ : no change 5% NaOH: no change	7 days at room temperature
Flexibility	ISO 1519	at 25°C: Ø 2mm OK at -20°C: Ø 3mm OK	180° Bend test
Xylene marker removability test (ΔE)	Optional test	Black: 0 Blue: 0 Red: 6	After 1 day, wiped by paper towel with ethanol
Accelerated weathering test	SUV (metal halide lamp)	84%	Gloss retention after 966 hours
	SWOM (carbon arc)	90%	Gloss retention after 4000 hours
Outdoor exposure	ISO 2409, Miyakojima (Japan)	75%	Gloss retention after 6 years

Storage

- Do not store ZEFFLE GK-571 at temperatures over 40°C
- Keep ZEFFLE GK-571 away from heat, sparks and open flames

Safety

Before using this product, please read the current Material Safety Data Sheet and the precautionary statement on the product package.

The information is based on practical experience and is intended for information and guidance only. No liability can be accepted.

Packaging

ZEFFLE GK-571 is available in 180kg drums and 1000kg IBCs.

ISO 14001 certification

Daikin Chemical Europe GmbH and all its suppliers within the Daikin Group have obtained the ISO 14001 certification, an international standard concerning the environmental management system in our factories. ISO 14001 is a standard established by the International Organization for Standardization which applies to environmental preservation activities. Activities, products and services of our fluorochemicals plants have been certified as being environmentally sound by an internationally recognized certification body.

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