

Coatings & Engineering Materials Division

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PRODUCT INFORMATION

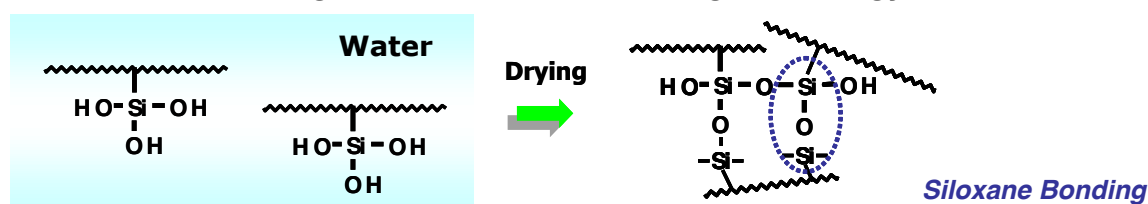
TAKELAC™ WS-Series

1-component, Self-crosslinking Type, Water-based Polyurethane resins

DESCRIPTION

TAKELAC™ water-based polyurethane resins by dispersing urethane elastomer in water. Self cross-linking property by the evaporation of water makes it an excellent hard film with hydrolysis-resistance, stain and water resistance properties.

Schematic Image of the Self Cross-linking technology



CHARACTERISTICS

- ◆ High flexibility and good adhesion with surface of metals, leather, and various films and plastics. Especially olefin films that are surface treated, such as Nylon and PET etc.
- ◆ Good hydrolysis-resistance and water-resistance
- ◆ Having the carboxyl group as a functional group, it can improve many properties by using various cross-linkers such as the water dispersible polyisocyanates.

PROPERTIES

TAKELAC™		WS-6021	WS-5000	WS-5100	WS-4000	WS-4022
Typical Values	Appearance	Milky-White Liquid				
	Solids (%)	30	30	30	30	30
	pH	7.5	7.5	7.8	7.5	8.0
	Viscosity (mPa.s@25°C)	200	20	20	20	30
	Solvent Content (%)	< 1%	< 1%	< 1%	< 1%	< 1%
	Ave. Particle Diameter (nm)	90	70	60	90	50
Macro polyol		Ether-base	Ester-base	Carbonate-base	Carbonate-base	Ester-base
Properties of dry film*	Tensile Strength (MPa)	50	60	40	66	50
	Elongation (%)	750	560	180	10	400
	Tg (°C)	-60,40	65	120	136	115
	Iconicity	Anionic				

* Film thickness : 60μ, Measured in 24 hours at room temperature after cured at 110°C for 1 hour.

The above properties are general information. (not including a part of product specifications)

APPLICATION EXAMPLES

TAKELAC™ WS-6021 shows superior performance in using for soft paint.

TAKELAC™ WS-5100 shows good hydrolysis resistance. It's using for Plastic coating, Film coating, Surface treatment of leather (natural, synthetic).

TAKELAC™ WS-4000 is for Metal coating, Antirust coating.

TAKELAC™ WS-4022 is for Film coating and has FDA certification.

TAKELAC™ WS-5000 is for Film coating, Ink binder.

NOTE

Please refer to our Material Safety Data Sheet for health and safety information on the product.

All information and other data contained in our product descriptions are averages and are given in good faith but without warranty. We cannot accept any liabilities for any damages or losses incurred as a result from the use of our information.