
Type Water dispersible polyisocyanate based on hexamethylene diisocyanate

Features

- # High NCO content
 - # Low viscosity
 - # Long pot life
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Applications

- # Automotive OEM coatings
 - # Automotive refinishes
 - # Industrial coatings (ACE, Train etc)
 - # Plastic coatings
 - # Floor coatings
 - # Roof coatings
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Typical properties

Appearance	Colorless to slightly yellowish clear liquid
Non-volatile	100 wt%
Solvent	None
NCO content	21.2 wt%
Viscosity	510 mPa · s at 25°C
Color value	< 1 (Gardner)
NCO equivalent weight	Approx. 198
Flash point	194°C
Relative density	1.15(20 °C) (H2O = 1)

These values provide general information and are not part of the product specifications.

◆ **Formulation :**

	Weight	Function	Supplier
< Part A >			
Setaqua 6515	674.0	Resin	Nuplex Resins
< Part B >			
Hardener premix	209.5		
Duranate™ WL72-100 70%		Hardener	Asahi Kasei
Butyl glycol acetate 30%		Solvent	
< Part C >			
Demin. Water	116.5		
	1000.0		

- Polyol (Acrylic Polyol, Setaqua6515, N.V.;45% , supplier: Nuplex Resins,
OH: 3.3wt% (on resin))
- Non-volatiles : 45%
- NCO/OH : 1.25
- Mixing : 1000rpm/5min. (Labo-agitator with dispersion blade)
- Dry film thickness : 50µm
- Drying condition : 60°C 30min + 23°C /50%RH for 7days.

< **Comparison** >

Hardener	WL72-100 (Hydrophilic)	WT31-100 (Hydrophilic)	TLA-100 (Hydrophobic)
Viscosity mPa · s/25°C	510	2500	500
NCO content %	21.2	17.4	23.3
NV %	100	100	100
Dispersibility for water	Excellent	Good	Separation

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◆ Coating film performance & Pot life

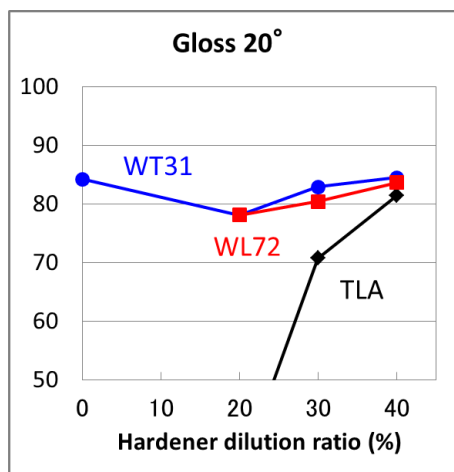
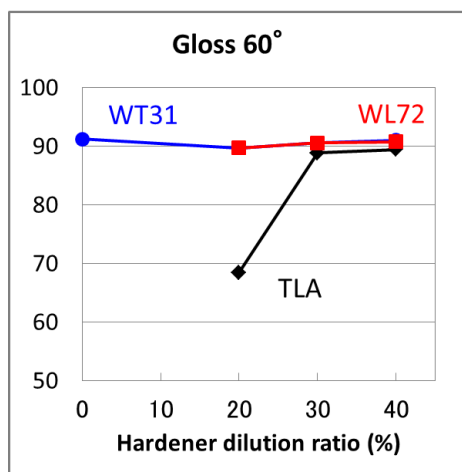
	Solvent ratio(%)	*1) Appearance	Hardness (König)	*2) Xylene resistance	*3) Water resistance	*4) Pot life
WL72-100	30	+	66	+	++	++
	40	+	60	+	++	++
TLA-100	30	~	70	~	++	++
	40	+	74	+	++	++
WT31-100	0	+	60	++	+	+

*1) + ; Transparent, ~ ; Hazy

*2)*3)*4) ++ ; Good, + ; Fair, ~ ; Bad

Formulation with WL72-100 can provides good film properties and good pot life.

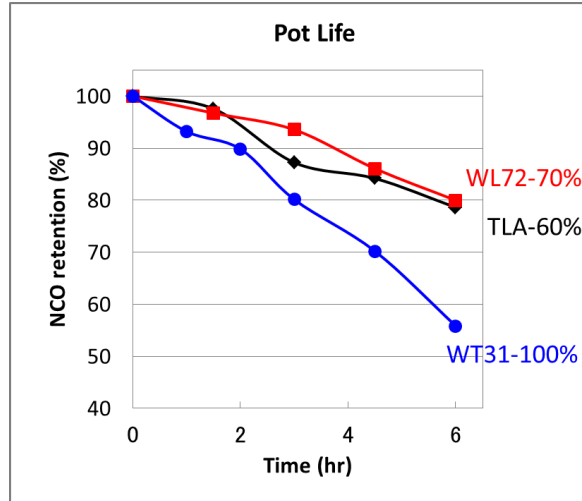
◆ Gloss value in different solvent dilution ratio



Formulation with WL72-100 can reduce the amount of solvent compared with TLA-100.

◆ Pot life of Waterborne 2K-PU application

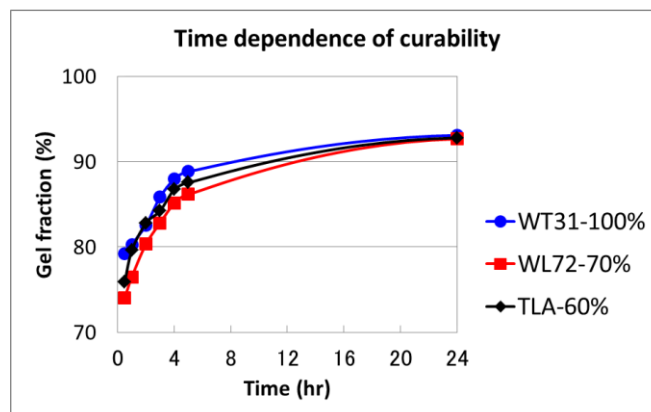
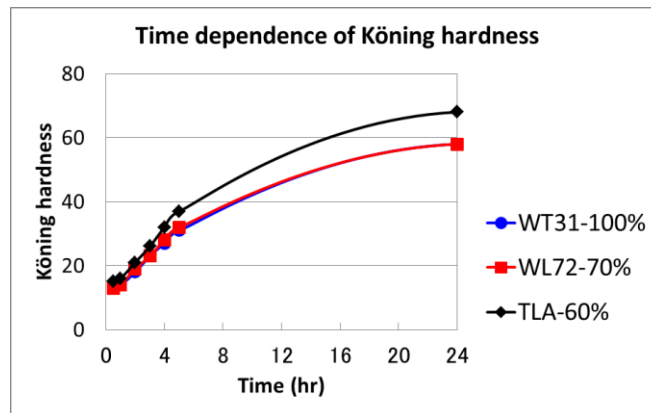
NCO retention (%) was measured by IR



WL72-100 shows longer pot life than WT31-100.

◆ Curability

Gel fraction; Insoluble film weight ratio in acetone after 24hr at 23°C



WL72 shows good curability similar to TLA and WT31-100.

All data and values in this data sheet show typical properties and characteristics only, obtained in our laboratory tests, and are not to be used as specifications.

For further information:

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