Biobased aqueous polyester resins

Corporate Website
Product information

GX-1481・GX-1482・GX-1483・GX-1484・GX-1485・GX-1490

- Constituents of the resins are partially replaced from petroleum-based to biomass-based.
  ※ Biobased synthetic polymer content : 45～90% (ISO 16620-3 compliant)
- Environmentally friendly, low VOC.
- Excellent adhesion to PET film.
- Available for in-line / off-line coating.
- Consists only of ingredients listed on the "FDA" and "The Positive List System for Food Utensils, Containers, and Packaging."
- Applications : Various water-based ink binders, adhesives, bonding agents, and backing materials (low Tg products)

General properties	GX-1481	GX-1482	GX-1483	GX-1484	GX-1485	GX-1490
Biobased carbon content※	40%	42%	39%	40%	93%	71%
Biobased synthetic polymer content※	45%	45%	45%	45%	90%	72%
Solid content	22%	25%	25%	25%	22%	22%
Solvents	Water : 69% PnP※ : 9%	Water : 75%	Water : 70% PnP※ : 5%	Water : 75%	Water : 66% PnP※ : 12%	Water : 66% ETB※ : 12%
Appearance	Light blue-white liquid	Light blue-white liquid	Light blue-white liquid	Light blue-white iquid	Light blue-white liquid	Light blue-white liquid
Solution viscosity (mPa･s/20℃)	15	10	10	10	25	15
pH (10%aq)	5.0～7.0	4.0～7.0	6.5～9.5	6.5～9.5	4.0～7.0	4.5～7.5
Tg	45℃	42℃	45℃	48℃	-55℃	-26℃
Acid value (mgKOH/g)	<10	<10	40～80	60～100	<10	<10
FDA	§175.105	§175.105	§175.105 §175.300	§175.105 §175.300	§175.105	§175.105
Feature	Water-resistance	Non solvent	Water-resistance High acid value	Non solvent High acid value	High biomass Low Tg	High biomass Low Tg

※Biobased carbon content : amount of biobased carbon in the product, ASTM D6866-22 compliant
※Biobesed synthetic polymer content : amount of biobased synthetic polymer present in the product, ISO16620-3 compliant
※PnP : Propylene glycol monopropyl ether (CAS No. : 1569-01-3) ※ETB : Ethylene glycol mono-tert-butyl ether (CAS No. : 7580-85-0)

Coating properties		GX-1481	GX-1482	GX-1483	GX-1484	GX-1485	GX-1490
Water resistance (25℃)		○	○	○ (○※)	△ (○※)	○	○
Hot water resistance (80℃)		△	×	△ (○※)	△ (○※)	○	△
Solvent resistance	Ethanol	○	○	○ (○※)	△ (○※)	△	△
	Isopropyl alcohol	○	○	○ (○※)	△ (○※)	×	×
	Hexane	○	○	○ (○※)	○ (○※)	△	○
	Toluene	△	○	△ (○※)	△ (○※)	△	×
	Ethyl acetate	△	△	× (×※)	× (○※)	×	×
	Methyl ethyl ketone	△	△	× (×※)	× (○※)	×	×

Results ○ : no change △ : whitening × : dissolution ※Using aqueous cross-linking agent (oxazoline type.)

- Coating condition (base material : PET film) : drying condition 120℃×5min, dry thickness about 3μm.
- Water resistance : Appearance change in 24 hours of immersion in water at 25℃.
- Hot water resistance : Appearance change in 30minutes of immersion in hot water at 80℃.
- Solvent resistance : Appearance change after rubbing (5 round trips) with a cotton swab, soaked in solvents.

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Contact

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