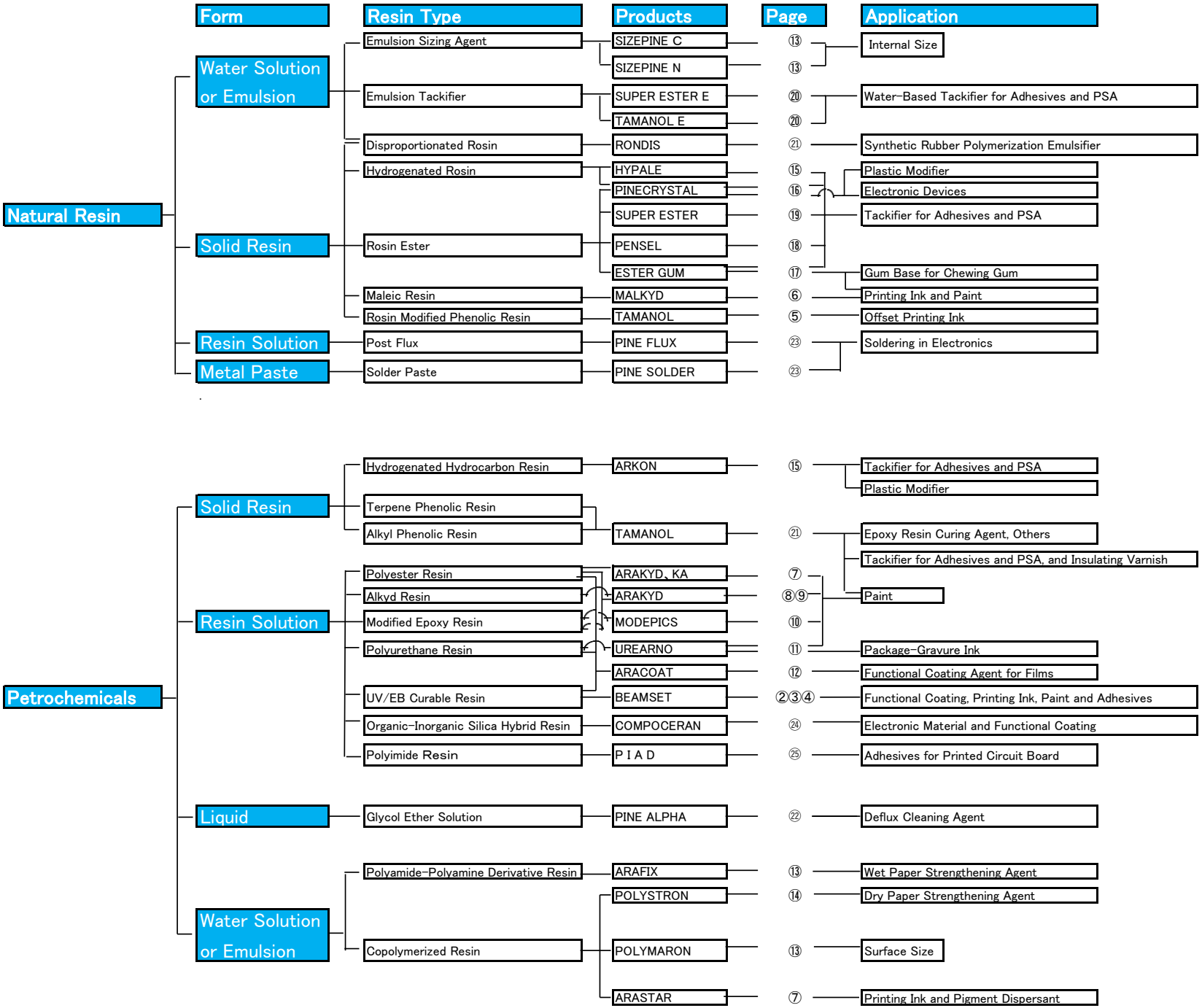
Main Product System Diagram



<Functional Coating Chemicals>

■ **UV or EB Curable Resin**

Item / Product	Type	Functionality	Appearance	Non Volatile (%)	Viscosity (mPa・s)(25℃)	Features	Applications
BEAMSET 243NS	Modified acrylic polymer	2	Pale yellow transparent liquid	100	6,000±1,000	Good adhesion to oil-based ink low P.I.I.	OP varnish
BEAMSET 255	Modified acrylic polymer	2	Pale yellow transparent liquid	100	30,000±5,000	Good adhesion to oil-based ink and treated PP film, high gloss	OP varnish
BEAMSET 261	Modified acrylic polymer	2	Pale yellow transparent liquid	100	530±50	Good adhesion to oil-based ink, high gloss	OP varnish
BEAMSET 271	Modified acrylic polymer	2	Pale yellow transparent liquid	100	12,500±2,500	Good adhesion to oil-based ink and PET film, high gloss	OP varnish
BEAMSET 550B	Urethane acrylate	3	Pale yellow transparent liquid	100	125,000±5,000	Good adhesion, quick curing	Adhesives (good adhesion to PVC)
BEAMSET 575	Urethane acrylate	3-6	Pale yellow transparent liquid	100	12,000±2,000	Good chemical resistance, excellent hardness	Hard coatings
BEAMSET 577	Urethane acrylate	3-6	Pale yellow transparent liquid	100	1,700±500	Excellent hardness	Hard coatings
BEAMSET 700	Dipentaerythritol polyacrylate	6	Pale yellow transparent liquid	100	4,500±1,000	Anti-emulsification, quick curing	Printing inks, hard coatings
BEAMSET 710	Pentaerythritol polyacrylate	4	Pale yellow transparent liquid	100	700±150	Anti-emulsification, excellent hardness, quick curing	Printing inks, hard coatings
BEAMSET 750	Bis-A ethylene oxide modified acrylate	2	Pale yellow transparent liquid	100	1,500±500	Anti-emulsification, quick curing	Printing inks, coating
BEAMSET 770	N-vinyl formamide	1	Pale yellow - pale turquoise	100	Max. 10	Low viscosity, quick curing, water-soluble	Paint, Printing inks, coating
BEAMSET AQ-19	Urethane acrylate	3-6	Pale yellow transparent liquid	100	15,000±2,000	Water dilutable excellent hardness, quick curing	Hard coatings
BEAMSET EM-90	Urethane acrylate emulsion	6	Milky white emulsion	40	125±75	Emulsion type, quick curing	Coating
BEAMSET EM-94	Urethane acrylate emulsion	6	Milky white emulsion	50	700±300	Emulsion type, excellent hardness, quick curing	Hard coatings

■ UV or EB Curable Coating Agent

	Product \ Item	Type	Appearance	Non Volatile (%)	Viscosity (mPa・s)(25℃)	Features	Applications
	BEAMSET 371	Epoxy acrylate	Pale red – pale yellow	65	900±300	Excellent hardness,□w curl	Hard coatings
☆	BEAMSET 575CB	Multifunctional acrylate	Pale yellow transparent liquid	100	1,500±500	Excellent hardness	Hard coatings
☆	BEAMSET AB001	Multifunctional acrylate	Pale red – pale yellow slightly turbid liquid	50	10±5	Anti-blocking, excellent hardness	Anti-blocking hard coatings
☆	BEAMSET 575CL	Multifunctional acrylate	Pale yellow transparent liquid	70	100±50	Anti-static, excellent hardness	Anti-static hard coatings
☆	BEAMSET AS005	Multifunctional acrylate	Pale yellow transparent liquid	50	12±5	Anti-static, excellent hardness	Anti-static hard coatings
☆	BEAMSET 907	Silica hybrid	Pale yellow slightly turbid liquid	50	Max. 10	Excellent hardness, abrasion hardness	Hard coatings
☆	BEAMSET 1405	Multifunctional acrylate	Pale yellow transparent liquid	60	10±5	Anti-pollution, easy to wipe pollution, excellent hardness, quick curable	Hard coatings
☆	BEAMSET 1461	Multifunctional acrylate	Pale yellow transparent liquid	80	50±15	Anti-fingerprint, excellent hardness, quick curable	Hard coatings
☆	BEAMSET NTZ-316	Acrylate	Pale yellow transparent liquid	100	2,000±1,000	High flexibility, good bump absorption	For protection film
☆	BEAMSET NTZ-337	Acrylate	Pale yellow transparent liquid	100	1,000±500	Slight adhesion, Self-adhesive	Optical clear adhesives
☆	BEAMSET NTZ-377	Acrylate	Pale yellow transparent liquid	100	1,500±500	Strong adhesion, High elasticity	Optical clear adhesives
☆	BEAMSET NTZ-377C1	Acrylate	Pale yellow transparent liquid	100	1,500±500	Strong adhesion at thin film	Optical clear adhesives
☆	BEAMSET NTZ-417	Acrylate	Pale yellow transparent liquid	100	5,000±2,000	Low dielectric constant	Optical clear adhesives
☆	BEAMSET NTZ-3104	Acrylate	Pale yellow transparent liquid	100	3,000±1,000	High durability	Optical clear adhesives
☆	BEAMSET NTZ-3004	Acrylate	Pale yellow transparent liquid	100	5,000±2,000	Blister resistance	Optical clear adhesives
☆	BEAMSET NTZ-511	Acrylate	Pale yellow transparent liquid	100	900±500	High refraction	Optical clear adhesives
☆	BEAMSET NTZ-1001	Acrylate	Pale yellow transparent liquid	100	1,500±500	Reworkability, Slight adhesion, High durabilit	Optical clear adhesives
☆	BEAMSET NTZ-2003	Acrylate	Pale yellow transparent liquid	100	1,000±500	Bending resistance, Low elasticity	Optical clear adhesives
	BEAMSET UKN-10	Polyurethane	Transparent liquid	50	1,000±500	Two-compoment curing system, Strong adhesion, Low dielectric contact	Optical clear adhesives
☆	BEAMSET MT-2	Multifunctional acrylate	Dark blue liquid	2.5	Max. 10	Electrically conductive, resistance to heat, moist heat and light	Electrically conductive material
☆	BEAMSET MT-3	Multifunctional acrylate	Dark blue liquid	25	Max. 10	Anti-static, quick curing, resistance to solvents	Anti-static material

☆Included photoinitiator

■ **Rosin Modified Phenolic Resin**

Item / Product	Type	Appearance	Color (USDA/ Gardner)	Acid Value	Softening Point (℃, R&B)	Features	Applications
TAMANOL 135	Rosin modified phenolics	Yellowish brown flake	WG or better	Max. 18	130–140	Good oil solubility, excellent for varnish	Oil varnish, enamel, baking varnish, insulation varnish, printing inks
TAMANOL 353	Rosin modified phenolics	Reddish brown chunk	G or better	Max. 30	150–163	Low molecular weight, good pigment wetting	Offset ink (dissolving type)
TAMANOL 3860	Rosin modified phenolics	Yellowish brown chunk	Max. 13 (33% Linseed oil solution)	Max. 23	180–190	Fast setting	Offset ink (cooking type)
TAMANOL 3862	Rosin modified phenolics	Yellowish brown chunk	Max. 13 (33% Linseed oil solution)	Max. 22	178–188	Good water resistance	Offset ink (cooking or dissolving type)
TAMANOL 3883	Rosin modified phenolics	Yellowish brown chunk	Max. 14 (33% Linseed oil solution)	Max. 25	176–186	Good water resistance	Offset ink (cooking type)
TAMANOL 3888	Rosin modified phenolics	Yellowish brown chunk	Max. 14 (33% Linseed oil solution)	Max. 25	173–183	High solubility in solvents of low aromatic contents, High gloss	Offset ink (dissolving type)
TAMANOL 3876	Rosin modified phenolics	Yellowish brown chunk	Max. 13 (33% Linseed oil solution)	Max. 25	158–168	Good pigment wetting	Offset ink (dissolving type)

■ **Rosin Modified Alkyd Resin**

Item / Product	Type	Appearance	Acid Value	Softening Point (℃, R&B)	Features	Applications
KG-8028	Rosin modified alkyd resin	Brown chunk	Max. 18	95-115	Good UV cure for UV-LED system, good water resistance	UV Offset ink

■ **Maleic Resin**

Item / Product	Type	Appearance	Color (USDA)	Acid Value	Softening Point (℃, R&B)	Features	Applications
MALKYD No.1	Maleic resin	Pale yellow flake	WG or better	Max. 25	120-130	Partial compatibility with nitrocellulose, good weather resistance and color retention	Oil varnish, enamel, printing inks
MALKYD No.2	Maleic resin	Pale yellow flake	WG or better	Max. 39	120-130	Very light color, good weather resistance, compatibility and color retention	Clear lacquer, enamel, oil varnish
MALKYD No.5	Maleic resin	Pale yellow flake	WG or better	Max. 25	140-150	Partial compatibility with nitrocellulose, good weather resistance and color retention	Oil varnish, enamel, printing inks
MALKYD No.6	Maleic resin	Pale yellow flake	WG or better	Max. 39	140-150	Very light color, good weather resistance, compatibility and color retention	Clear lacquer, enamel, oil varnish
MALKYD No.8	Maleic resin	Pale yellow flake	WG or better	Max. 39	130-140	Very light color, good weather resistance, compatibility and color retention	Clear lacquer, enamel, oil varnish
MALKYD No.31	Maleic resin	Pale yellow chunk	WG or better	Max. 200	135-145	Good solubility in alcohol	Quick drying varnish, high gloss varnish, lacquer, copal varnish
MALKYD No.32	Maleic resin	Pale yellow chunk	WG or better	Max. 140	130-140	Good solubility in alcohol	High gloss varnish, copal varnish
MALKYD No.33	Maleic resin	Pale yellow chunk	WG or better	290-320	Min. 140	Good solubility in alcohol, soluble in glycol	Flexographic ink
MALKYD 3002	Maleic resin	Yellowish brown chunk	I or better	90-110	165-185	High melting point and high gloss, soluble in alcohol	Printing inks, alcohol varnish

■ **Styrene Maleic Resin**

Item / Product	Type	Appearance	Acid Value	Softening Point (℃, R&B)	Features	Applications
ARASTAR 700	Styrene maleic resin	Yellowish brown chunk or powder	175–200	105–120	High melting point and high gloss, weather resistance, alcohol solubility	Printing inks, alcohol varnish

■ **Maleic Resin for Road Marking Paint**

Item / Product	Type	Appearance	Color (Gardner)	Acid Value	Softening Point (℃, R&B)	Features	Applications
TRAFIX 4102	Maleic resin	Pale yellow flake	Max. 7	Max. 30	100–109	Good heat resistance and processability, good compatibility with petroleum resins	Hot melt road marking paint

■ **Polyester Resin**

Item / Product	Type	Solid Content (%)	Solvent	Color (Gardner)	Acid Value	Viscosity (25℃)(Gardner)	Tg (℃,DSC)	Features	Applications
KA-2070	Linear macromolecule	40±1	T-SOL100/T-SOL150/ cyclohexanone	Max. 3	1.5–3.5	Y–Z_2	70	Excellent adhesion and corrosion resistance	PCM coating, can coating
ARAKYD 7052L	Oil free type	60±1	T-SOL150/ PMA	Max. 2	Max. 5	Z–Z_2	9	Good processability	PCM coating
KA-2090P33	Linear macromolecule	45±1	Solvent naphtha/PMA/ DBE/Ethylene glycol n-butyl ether/ cyclohexanone	Max. 3	1.0–3.0	W–Z	39	Excellent adhesion Good processability Pigment dispersibility	Can coating
ARAKYD 7013B	Branched macromolecule	50±1	Solvent naphtha/ Diethylene glycol n-butyl ether	Max. 3	Max. 3	V–Y	24	Excellent adhesion Good processability High gloss	Can coating

■ Short Oil Alkyd Resin

Item / Product	Type of oil	Solid Content (%)	Solvent	Color (Gardner)	Acid Value	Viscosity (25℃)(Gardner)	Phthalic Anhydride (%)	Oil Length	Features	Applications
ARAKYD IA-120-60L	Tall oil	60±1	Xylene	Max. 6	Max. 9	Y-Z_1	42	39	Good heat and alkali resistance, high gloss	Melamine, baking enamel, lacquer
ARAKYD 1782-60	Tall oil	60±1	Xylene	Max. 7	Max. 8	Z_3-Z_6	42	37	Good hardness and gloss excellent adhesion	Melamine, baking enamel, lacquer

■ Medium Oil Alkyd Resin

Item / Product	Type of oil	Solid Content (%)	Solvent	Color (Gardner)	Acid Value	Viscosity (25℃)(Gardner)	Phthalic Anhydride (%)	Oil Length	Features	Applications
ARAKYD 8012	Tall oil	50±1	Xylene	Max. 10	6-10	U-X	35	50	Good hardness and gloss, quick drying	Phthalic acid based paint
ARAKYD 5350	Safflower oil/ soya bean oil	50±1	Mineral turpentine	Max. 5	2-5	Y-Z_1	28	51	Good hardness, quick drying and good pigment dispersibility	Phthalic acid based paint

■ Long Oil Alkyd Resin

Item / Product	Type of oil	Solid Content (%)	Solvent	Color (Gardner)	Acid Value	Viscosity (25℃)(Gardner)	Phthalic Anhydride (%)	Oil Length	Features	Applications
ARAKYD 1465-60	Tall oil	60±1	Mineral turpentine	Max. 7	Max. 6	U-X	24	66	Good hardness, water resistance and gloss	Synthetic resin base ready mixed paint

■ Special Alkyd Resin

Item / Product	Type of oil	Solid Content (%)	Solvent	Color (Gardner)	Acid Value	Viscosity (25℃)(Gardner)	Phthalic Anhydride (%)	Oil Length	Features	Applications
ARAKYD 3145-80	Soya bean oil	80±1	Mineral turpentine	Max. 8	Max. 12	Z_5-Z_7	25	64	Good compatibility, printability and gloss	Printing inks
ARAKYD 251	Soya bean oil	100	n/a	Max. 8	Max. 13	T-W	9	77	Good weather resistance and plasticizing effect	Plasticizer for road marking paint
ARAKYD 6300	Tall oil/ soya bean oil	100	n/a	Max. 8	Max. 10	90-150 (mPa・s)	5	85	Low viscosity and plasticizing effect	Plasticizer for road marking paint

■ **Phenolic Modified Alkyd Resin**

Item / Product	Type of oil	Solid Content (%)	Solvent	Color (Gardner)	Acid Value	Viscosity (25℃)(Gardner)	Phthalic Anhydride (%)	Oil Length	Features	Applications
ARAKYD 1232-60	Linseed oil	60±1	Xylene	Max. 7	Max. 8	V-Y	27	28	Good water and alkali resistance	Under-coating
ARAKYD 7100X-50	Linseed/tung oil	50±1	Xylene	Max. 10	Max. 8	P-U	n/a	n/a	Good hardness and corrosion resistance,quick drying	Under-coating
ARAKYD 7104	Linseed/tung oil	50±1	Xylene	Max. 10	10-16	W-Z_1	n/a	n/a	Excellent adhesion, good recoatability	Under-coating
ARAKYD 7107	Linseed/tung oil	50±1	Xylene	Max. 10	6-12	V-X	n/a	n/a	Excellent adhesion, good recoatability, water resistance	Under-coating
ARAKYD 7108	Linseed/tung oil	50±1	Xylene	Max. 10	8-15	W-Z	n/a	n/a	Good corrosion resistance	Under-coating
ARAKYD 7109	Soya bean oil	50±1	Xylene	Max. 10	3-9	W-Z	n/a	n/a	Excellent adhesion, recoating and water resistance	Under-coating
ARAKYD 7110	Linseed/tung oil	50±1	Xylene	Max. 10	5-9	W-Z	n/a	n/a	Good corrosion resistance and recoating	Under-coating

■ **Urethane Modified Alkyd Resin**

Item / Product	Type of oil	Solid Content (%)	Solvent	Color (Gardner)	Acid Value	Viscosity (25℃)(Gardner)	Features	Applications
ARAKYD 7506	Soya bean oil	50±1	Xylene	3-8	2-7	X-Z_1	Fast drying, good hardness and recoating	Fast drying paints
ARAKYD 7502X	Soya bean oil	50±1	Xylene	3-7	2-5	V-Y	Fast drying	Fast drying paints

■ **Solvent Type Modified Epoxy Resin**

Item / Product	Solid Content (%)	Solvent	Color (Gardner)	Viscosity (25℃)(Gardner)	Tg (℃,DSC)	Features	Applications
ARAKYD 9201N	40±1	Toluene/MEK/ PMA/IPA	Max. 3	W-Z_1	94	Excellent anti-corrosion	Automobile parts, PCM primer, miscellaneous coating materials
ARAKYD 9203N	40±1	Toluene/MEK/ PMA/IPA	Max. 3	P-U	84	High solubility	Automobile parts, PCM primer, miscellaneous coating materials
ARAKYD 9205	40±1	Toluene/xylene/ butanol	Max. 3	W-Z_1	84	Curable at room temperature	Automobile parts, PCM primer, miscellaneous coating materials
ARAKYD 9208	40±1	Xylene/butanol/PMA	Max. 3	Y-Z_3	84	High flash point solvent(27℃)	Automobile parts, PCM primer, miscellaneous coating materials
ARAKYD 9212	40±1	Xylene/butanol/PMA/ cyclohexanone	Max. 3	T-W	63	Excellent adhesion to non-ferrous metal	Automobile parts, PCM primer, miscellaneous coating materials
KA-1439A	40±1	Xylene/ cyclohexanone	Max. 3	X-Z_2	77	Excellent adhesion to non-ferrous metal	Automobile parts, PCM primer, miscellaneous coating materials
KA-1492	55±2	Xylene/butanol/PMA/ MIBK	Max. 4	Z_3-Z_7	56	High solid content	Automobile parts, PCM primer, miscellaneous coating materials
MODEPICS 401	40±1	Butyl acetate/PMA/ cyclohexanone/PM	Max. 4	X-Z1	87	Toluene and xylene free	Automobile parts, PCM primer, miscellaneous coating materials

*PMA: Methoxy propyl acetate PM: Methoxy propanol

■ **Water-Based Modified Epoxy Resin**

Item / Product	Appearance	Solid Content (%)	Co-Solvent	pH (5%sol)	Viscosity (mPa・s)(25℃)	Tg (℃,DSC)	Features	Applications
MODEPICS 501	Milky Brown	33±1	Ethylene glycol n-butyl ether(15%)	9.5-9.8	800-1,500	62	Standard	Automobile parts, PCM primer, miscellaneous coating materials
MODEPICS 502	Milky Brown	33±1	Ethylene glycol n-butyl ether(17%)	9.5-9.8	800-1,500	70	High solvent resistance	Automobile parts, PCM primer, miscellaneous coating materials
MODEPICS 504	Milky Brown	39±1	Ethylene glycol n-butyl ether(10%)	9.6-9.9	300-1,200	58	High solid content, low VOC	Automobile parts, PCM primer, miscellaneous coating materials

■ **Polyurethane Resin for Lamination Gravure Printing Ink**

Item / Product	Appearance	Solid Content (%)	Solvent	Color (Gardner)	Viscosity (mPa・s)(25℃)	Features and Applications
UREARNO F-602NT	Yellow liquid	39.0-41.0	Ethyl acetate	Max. 10	40-60	Adhesion promoter for OPP film
UREARNO F-200	Pale yellow transparent liquid	29.0-31.0	TOL/MEK/IPA	Max. 6	500-1,000	Toluene grade with good all-round performance
UREARNO F-205	Pale yellow transparent liquid	29.0-31.0	Ethyl acetate/IPA	Max. 6	900-1,800	High performance toluene free grade
UREARNO F-207	Pale yellow transparent liquid	29.0-31.0	Ethyl acetate/IPA	Max. 2	800-1,200	Good all-round performance toluene free grade
UREARNO F-230	Pale yellow transparent liquid	29.0-31.0	Ethyl acetate/IPA	Max. 2	700-1,200	Good all-round performance toluene free grade, excellent adhesion to OPP film
UREARNO F-301	Pale yellow transparent liquid	29.0-31.0	Ethyl acetate/IPA	Max. 2	300-900	Alcohol soluble, good for special gravure and flexo ink
UREARNO F-303	Pale yellow transparent liquid	29.0-31.0	Ethyl acetate/IPA	Max. 6	700-1,200	Alcohol soluble, good for snack packaging
UREARNO F-400	Pale yellow transparent liquid	73.0-77.0	Ethyl acetate/IPA	Max. 2	2,000-4,000	Works with NC, excellent adhesion
UREARNO F-401	Pale yellow transparent liquid	67.0-73.0	Ethyl acetate/IPA	Max. 2	1,500-4,000	Works with NC, good balance of adhesion and anti-blocking
UREARNO W321	Pale yellow transparent liquid	33.5-35.5	Water/IPA	n/a	500-1,000	Film coating, good adhesion to film
UREARNO W600	Milky White	34.0-36.0	Water/IPA	n/a	30-300	Film coating, excellent adhesion to film

■ **Functional Coating Agent for Film**

Item / Product	Solid Content (%)	Solvent	Curing Agent	Features	Applications
Anchor Coating Agent for Deposition					
ARACOAT DA105	35±1	MEK	Isocyanate	High-performance anchor coat agent for deposited layer of aluminum and silica, applied with curing agent CL100A (two-component curing system) Excellent high-heat resistance during manufacturing process	Anchor coating agent for deposited layer
Release Coating Agent					
ARACOAT RL900	50±1	Toluene/IPA /MEK	Melamine	Two-compoment curing system, non-silicone, no concern about contamination with silicone components, light peeling type	Separator, process film
ARACOAT RL902	25±1	Buthyl Acetate /MEK/IPA	Melamine	Two-compoment curing system, non-silicone, no concern about contamination with silicone components, light peeling type, heat-resistant	Separator, process film
ARACOAT RL909	50±1	MEK/ Ethyl Acetate	Melamine	Two-compoment curing system, non-silicone, no concern about contamination with silicone components, heavy peeling type	Separator, process film
ARACOAT RL3021	50±1	IPA	Melamine	Two-compoment curing system, low-silicone, fast curing, heat-resistant, light peeling type	Separator, process film
Antistatic Coating Agent					
ARACOAT AS601D	3.5	Water/IPA	Amine	Antistatic effect with surface resistivity $10^{7\sim9}\Omega$/sq, excellent curing at low temperature and solvent resistance, applied with curing agent CL910 (two-component curing system)	Coating agent with antistatic effect
Matte coating					
ARACOAT ML1001	38±1	Ethyl Acetate /MEK	Isocyanate	Middle gloss type matte coat agent applied with curing agent CL2505 (two-component curing system)	Matte film
ARACOAT ML1010	38±1	Ethyl Acetate/ Buthyl Acetate /MEK	Isocyanate	Low gloss type matte coat agent applied with curing agent CL2505 (two-component curing system)	Matte film
Self-Healing Coating Agent					
ARACOAT SH6003	35±1.5	Ethyl Acetate /MEK	Isocyanate	Self-Healing coat agent applied with curing agent CL109 (two-component curing system), which reduce dirty adhesion	Self-Healing coating agent for films

＜Paper Chemicals & Environmental Business＞

■ Internal Size

Item / Product	Appearance	Electric Charge	Solid (%)	pH	Viscosity (mPa･s)(25℃)	Features and Applications
SIZEPINE N-775L	Milky white emulsion	Anionic	Min. 40	5.5 – 6.5	Max. 50	Rosin emulsion sizing agent,internal size for all paper under acidic condition,excellent sizing effect at high temperature
SIZEPINE N-795L	**Milky white emulsion**	**Anionic**	**Min. 40**	**5.5 – 6.5**	**Max. 50**	**Rosin emulsion sizing agent,internal size for all paper under acidic condition,excellent sizing effect at high temperature**
SIZEPINE C-503	Milky white emulsion	Cationic	Min. 35	2.5 – 4.5	Max. 100	Cationic rosin emulsion sizing agent,effective in no alum condition, internal size for semi-acidic to neutral condition

■ Surface Size

Item / Product	Appearance	Electric Charge	Solid (%)	pH	Viscosity (mPa･s)(25℃)	Features and Applications
POLYMARON 360	Slightly turbid pale yellow liquid	Cationic	Min. 20	4.5 – 5.5	10 – 20	Effective for paper / paper board, excellent slip-proof effect
POLYMARON K-401T	Brownish red colored emulsion	Cationic	Min. 25	2.5 – 4.0	1 – 100	Effective for paper / paperboard that requires a general surface sizing degree, excellent anti-slip and stability
POLYMARON K-402T	**Brownish red colored emulsion**	**Cationic**	**Min. 25**	**2.5 – 4.0**	**1 – 100**	**Effective for paper / paperboard that requires a high surface sizing degree, excellent anti-slip and stability No need to use with Alum**
POLYMARON K-403T	Brownish red colored emulsion	Cationic	Min. 25	2.5 – 4.0	1 – 100	Effective for paper / paperboard that requires a high surface sizing degree, excellent anti-slip and stability **Excellent effect in no Alum condition**

■ Wet Paper Strengthening Agent

Item	Appearance	Electric Charge	Solid (%)	pH	Viscosity (mPa･s)(25℃)	Features and Applications
ARAFIX 125	Pale yellow transparent liquid	Cationic	Min. 12.5	3.0 – 6.0	10 – 30	Excellent wet strength performance
ARAFIX 255	Pale yellow transparent liquid	Cationic	Min. 25	2.5 – 4.0	100 – 300	Excellent wet strength performance

■ Sprayable Paper Strengthening Agent

Item / Product	Appearance	Electric Charge	Solid (%)	pH (1% aq.)	Viscosity (mPa･s)(25℃)	Features and Applications
POLYMERJET 5100	Pale green to brown slightly turbid liquid	Cationic	Min. 20	2.1 – 4.0	500 – 3,000	Interlayer bonding improvement by better retention of the raw starch mixed with Polymerjet

■ **Pick-Up Wax**

Item	Appearance	Electric Charge	Solid (%)	pH	Viscosity (mPa・s)(25℃)	Features and Applications
PINE WAX	Bar wax	n/a	n/a	n/a	n/a	For paper surface strength measurement according to Japan TAPPI

■ **Dry Paper Strengthening Agent**

Item	Appearance	Electric Charge	Solid (%)	pH (1% aq.)	Viscosity (mPa・s)(25℃)	Features and Applications
POLYSTRON CH-117	Pale yellow transparent liquid	Anionic	Min. 15	5.0 – 7.0	3,000 – 7,000	Dry paper strengthening agent for all paper
POLYSTRON CH-1400	Pale yellow slightly turbid liquid	Amphoteric	Min. 20	2.5 – 4.5	5,000 – 11,000	Effective in semi-acidic to neutral range, suitable for high strength liner board with good formation, excellent effect in dry strength and retention
POLYSTRON CH-1428	Pale yellow slightly turbid liquid	Amphoteric	Min. 20	2.5 – 4.5	5,000 – 10,000	Effective in semi-acidic to neutral range, and at higher electrical conductivity, suitable for high strength liner board and gypsum liner board, excellent effect in dry strength, drainage and retention
POLYSTRON CH-1500	Pale yellow slightly turbid liquid	Amphoteric	Min. 20	2.5 – 4.5	7,000 – 13,000	Effective in semi-acidic to neutral range, suitable for high strength liner and corrugated medium board and printing paper,excellent effect in dry strength, drainage and retention
POLYSTRON CH-1508	Slightly white-turbid viscous aqueous solution	Amphoteric	Min. 15	3.0 – 4.0	7,000 – 13,000	Effective in semi-acidic to neutral range, and at higher electrical conductivity, suitable for high strength liner board, core board, and newsprint, excellent effect in dry strength, drainage and retention
POLYSTRON CH-1518	Slightly white-turbid viscous aqueous solution	Amphoteric	Min. 15	2.5 – 4.5	1,000 – 6,000	Effective in semi-acidic to neutral range, and at higher electrical conductivity, suitable for high strength liner boad, core board and corrugated midium, excellent effect in dry strength, drainage and retention
POLYSTRON CH-1558	Pale green to brown slightly turbid liquid	Amphoteric	Min. 15	2.1 – 3.5	1,000 – 4,000	Effective in semi-acidic to neutral range, and suitable for white paperboard, liner board, excellent dry strength effect, and fixing effect for other dry strength agent in no alum condition
POLYSTRON CH-1700	Pale green to brown slightly turbid liquid	Cationic	Min. 20	2.1 – 4.0	500 – 3,000	Effective in acidic to neutral range, suitable for paper board and printing paper, excellent effect in no alum condition
POLYSTRON CH-3200P	Pale green to brown slightly turbid liquid	Cationic	Min. 20	2.1 – 4.0	500 – 3,000	For improvement of tensile strength and stiffness of tissue paper or thin paper, reduction of effluent load such as COD by higher retention

<Adhesive & Biomass Materials>

■ Hydrogenated Hydrocarbon Resin

Item / Product	Appearance	Color (Hazen)	Softening Point (℃,R&B)	Features	Applications
ARKON P-90	Colorless transparent pellet	Max. 100	90±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives
ARKON P-100	Colorless transparent pellet	Max. 100	100±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives
ARKON P-115	Colorless transparent pellet	Max. 100	115±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives, plastic modifier
ARKON P-125	Colorless transparent pellet	Max. 100	125±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives, plastic modifier
ARKON P-140	Colorless transparent pellet	Max. 100	140±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives, plastic modifier
ARKON M-90	Colorless transparent pellet	Max. 100	90±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives
ARKON M-100	Colorless transparent pellet	Max. 100	100±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives
ARKON M-115	Colorless transparent pellet	Max. 100	115±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives
ARKON M-135	Colorless transparent pellet	Max. 100	135±5	Good weather resistance, odorless, good compatibility with variety of elastomers	Pressure sensitive adhesives, hot melt adhesives

■ Hydrogenated Rosin

Item / Product	Appearance	Color(USDA)	Acid Value	Softening Point (℃, R&B)	Applications
HYPALE CH-B	Pale yellow chunk	X or better	Min. 145	Min. 65	Adhesives, coating, soldering flux

■ Colorless Transparent Rosin Derivatives

Item / Product	Type	Appearance	Color (Hazen)	Acid Value	Softening Point (℃,R&B)	Features	Applications
PINECRYSTAL KE-604	Acid modified ultra pale colored rosin	Pale yellow or colorless transparent chunk	Max. 300	230-245	124-134	Alkali soluble, Good heat and weather resistance, Low metal ion content	Soldering flux, Acrylic adhesives
PINECRYSTAL KR-610	Ultra pale colored rosin	Pale yellow or colorless transparent chunk	Max. 150	165-175	80-87	Good heat stability, Low metal ion content	Soldering flux, Electronics items
PINECRYSTAL KR-612	Ultra pale colored rosin	Pale yellow or colorless transparent chunk	Max. 200	160-175	80-90	Good heat stability, Low metal ion content, Low crystallinity	Soldering flux, Electronics items
PINECRYSTAL KR-614	Ultra pale colored rosin	Pale yellow or colorless transparent chunk	Max. 250	170-180	84-94	Good heat stability, Low metal ion content, High DAA content	Soldering flux, Electronics items
PINECRYSTAL KR-616	Ultra pale colored rosin	Pale yellow or colorless transparent chunk	Max. 200	172-182	78-88	Good heat stability, Low metal ion content, Good solvent solubility	Soldering flux, Electronics items
PINECRYSTAL KE-100	Ultra pale colored rosin ester	Pale yellow or colorless transparent chunk	Max. 200	2-10	95-105	Good heat stability	Adhesives, Pressure sensitive adhesives (good compatibility with acrylic polymer)
PINECRYSTAL KE-311	Ultra pale colored rosin ester	Pale yellow or colorless transparent chunk	Max. 150	2-10	90-100	Good heat and weather resistance	Adhesives, Pressure sensitive adhesives
PINECRYSTAL PE-590	Ultra pale colored rosin ester	Colorless transparent chunk	Max. 100	2-10	90-100	Good heat and weather resistance, Low polymerization inhibition	Adhesives, Pressure sensitive adhesives
PINECRYSTAL KE-359	Ultra pale colored rosin ester	Pale red or colorless transparent chunk	Max. 150	10-20	94-104	Good heat stability, High hydroxyl value	Adhesives, Pressure sensitive adhesives (good compatibility with acrylic polymer)
PINECRYSTAL D-6011	Rosin diol	Orange colored transparent block	Max. 8 (Gardner)	Max. 1	84-99	Good compatibility with variety of diol, Improve adhesion to polyolefin	Polyurethane adhesives

■ Rosin Ester, Hydrogenated Rosin Ester

Item / Product	Type	Appearance	Color (USDA)	Acid Value	Softening Point (℃, R&B)	Features	Applications
ESTER GUM AA-G	Rosin ester	Pale yellow flake	WW or better	Max. 7	82-88	-	Gum base for chewing gum
ESTER GUM AA-L	Rosin ester	Pale yellow flake	WW or better	Max. 7	Min. 82	Good compatibility with natural / synthetic rubbers, EVA	Hot melt adhesives, oil varnish, enamel, lacquer, printing inks, emulsion paint
ESTER GUM AA-V	Rosin ester	Pale yellow flake	WW or better	Max. 7	82-95	Good compatibility with natural / synthetic rubbers, EVA	Hot melt adhesive, pressure sensitive adhesives, coating
ESTER GUM HP	Hydrogenated rosin ester	Pale yellow flake	M or better	Max. 20	Min. 80	Good compatibility with natural / synthetic rubbers, EVA	Hot melt adhesive, pressure sensitive adhesives, coating
ESTER GUM H	Hydrogenated rosin ester	Pale yellow chunk	WG or better	Max. 10	Min. 68	Good compatibility with natural / synthetic rubbers, EVA	Hot melt adhesive, pressure sensitive adhesives, coating
ESTER GUM AT	Rosin ester	Brown balsam	Max. 15 (Gardner)	Max. 10	Viscosity(Pa・s) 20-40	Good compatibility with natural / synthetic rubbers, EVA	Hot melt adhesive, pressure sensitive adhesives, coating

■ Polymerized Rosin

Item / Product	Appearance	Color (Gardner)	Acid Value	Softening Point (℃, R&B)	Applications
ARDYME R-95	Pale yellow chunk	Max. 10	158-168	93-103	Adhesives, printing inks, coating and soldering fluxes
ARDYME R-140	Pale yellow chunk	Max. 10	Min. 140	135-145	Adhesives, printing inks, coating and soldering fluxes

■ **Rosin Ester, Stabilized Rosin Ester, Polymerized Rosin Ester**

Item / Product	Type	Appearance	Color (Gardner or USDA)	Acid Value	Softening Point (℃,R&B)	Features	Applications
PENSEL GA-90	Rosin ester	Pale yellowish flake	Max. 5	Max. 7	87-93	Good oxidation resistance, weather resistance, heat resistance and good compatibility with EVA	Pressure-sensitive adhesives, hot melt and acrylic adhesives
PENSEL GA-100	Rosin ester	Pale yellowish flake	Max. 5	10-20	100-106	Good oxidation resistance, weather resistance,heat resistance and good compatibility with EVA	Pressure-sensitive adhesives, hot melt and acrylic adhesives
PENSEL GB-120	Stabilized rosin ester	Pale yellowish flake	Max. 7	10-20	116-126	Good oxidation resistance, weather resistance, heat resistance and good compatibility with EVA	Pressure-sensitive adhesives, hot melt and acrylic adhesives
PENSEL GA-85HS	Hydrogenated rosin ester	Pale yellowish flake	Max. 7	Max. 10	80-90	Good oxidation resistance, weather resistance, heat resistance and good compatibility with EVA	Pressure-sensitive adhesives, hot melt and acrylic adhesives
PENSEL KK	Polymerized rosin ester	Brown chunk	XC - G	10-25	Min. 165	Good heat resistance in EVA compound	Acrylic adhesives, hot melt adhesives, printing inks
PENSEL D-125	Polymerized rosin ester	Yellow flake	Max. 12	Max. 20	120-130	Good heat resistance in EVA compound	Acrylic adhesives, hot melt adhesives, printing inks
PENSEL D-135	Polymerized rosin ester	Yellow flake	Max. 12	10-16	130-140	Good heat resistance in EVA compound	Acrylic adhesives, hot melt adhesives, printing inks
PENSEL D-160	Polymerized rosin ester	Yellow flake	Max. 13	10-16	150-165	Good heat resistance in EVA compound	Acrylic adhesives, hot melt adhesives, printing inks

■ Highly Stabilized and Stabilized Rosin Ester

Item / Product	Type	Appearance	Color (Gardner)	Acid Value	Softening Point (℃, R&B)	Features	Applications
SUPER ESTER A-75	Stabilized rosin ester	Pale yellow chunk	Max. 7	Max. 10	70-80	Good oxidation resistance, weather resistance, heat resistance and good compatibility with elastomers	Hot melt and acrylic adhesives, pressure sensitive adhesives
SUPER ESTER A-100	Stabilized rosin ester	Pale yellow Flake	Max. 7	Max. 10	95-105	Good oxidation resistance, weather resistance, heat resistance and good compatibility with elastomers	Hot melt and acrylic adhesives, pressure sensitive adhesives
SUPER ESTER A-115	Stabilized rosin ester	Yellow Brown Flake	Max. 10	Max. 20	108-120	Good oxidation resistance, weather resistance, heat resistance and good compatibility with elastomers	Hot melt and acrylic adhesives, pressure sensitive adhesives
SUPER ESTER A-125	Stabilized rosin ester	Pale yellow Flake	Max. 10	Max. 20	120-130	Good oxidation resistance, weather resistance, heat resistance and good compatibility with elastomers	Hot melt and acrylic adhesives, pressure sensitive adhesives
SUPER ESTER W-100	Stabilized rosin ester	Pale yellow Flake	Max. 7	Max. 10	95-100	Good oxidation resistance, weather resistance, heat resistance and good compatibility with elastomers	Hot melt and acrylic adhesives, pressure sensitive adhesives
SUPER ESTER W-115	Stabilized rosin ester	Pale yellow Flake	Max. 7	Max. 20	108-120	Good oxidation resistance, weather resistance, heat resistance and good compatibility with elastomers	Hot melt and acrylic adhesives, pressure sensitive adhesives
SUPER ESTER W-125	Stabilized rosin ester	Pale yellow Flake	Max. 7	Max. 20	118-130	Good oxidation resistance, weather resistance, heat resistance and good compatibility with elastomers	Hot melt and acrylic adhesives, pressure sensitive adhesives

■ Refined Rosin

Item / Product	Appearance	Color(USDA)	Acid Value	Softening Point (℃, R&B)	Applications
FR ROSIN	Pale yellow chunk	X or better	Min. 165	Min. 78.	Adhesive, Coating etc

■ **Emulsion Tackifier**

Item / Product	Appearance and Composition	SP of Resin (℃)	Solid (%)	pH	Viscosity (mPa・s)(25℃)	Features	Applications
SUPER ESTER E-720W	Milky white rosin ester emulsion	92	50-51	5-7	Max. 200	General use, good compatibility with various latexes or emulsions	Adhesives, Pressure sensitive adhesives
SUPER ESTER E-730-55	Milky white rosin ester emulsion	125	55-56	5-7	Max. 200	General use, high solid content	Adhesives, Pressure sensitive adhesives
SUPER ESTER E-650	Milky white rosin ester emulsion	160	50-51	5-8	Max. 200	Excellent adhesion strength, heat resistance	Adhesives, Pressure sensitive adhesives
SUPER ESTER E-788	Milky white rosin ester emulsion	160	50-51	5-8	Max. 200	Excellent adhesion strength, heat resistance	Adhesives, Pressure sensitive adhesives
SUPER ESTER E-900-NT	Milky white rosin ester emulsion	160	50-51	5-8	Max. 500	Exellent adhesion strength, heat resistance, NP/NPE free Toluene/xylene free type, good mechanical stability	Adhesives, Pressure sensitive adhesives
TAMANOL E-102A	Milky white phenolic terpene emulsion	150	52-54	6-8	Max. 500	Excellent adhesion strength, heat resistance	Adhesives, Pressure sensitive adhesives
TAMANOL E-300-NT	Milky white terpene phenolic emulsion	150	52-54	5-8	Max. 200	Exellent adhesion strength, heat resistance, NP/NPE free Toluene/xylene free type	Adhesives, Pressure sensitive adhesives
SUPER ESTER NS-80F	Milky white rosin ester emulsion	80	49-51	6-9	Max. 100	Solvent free, general use FDA 175.105	Adhesives, Pressure sensitive adhesives
SUPER ESTER NS-100F	Milky white rosin ester emulsion	100	49-51	6-9	Max. 100	Solvent free, general use FDA 175.105	Adhesives, Pressure sensitive adhesives
SUPER ESTER NS-100H	Milky white rosin ester emulsion	100	50-51	7-9	Max. 200	Solvent free, general use	Adhesives, Pressure sensitive adhesives

■ Alkyl Phenolic Resin

Item / Product	Type	Appearance	Acid Value	Softening Point (℃, R&B)	Features	Applications
TAMANOL 100S	Novolac	Pale yellow chunk	85–100	110–130	Good durability and alkali resistance	Oil varnish, printing inks, electric insulation varnish
TAMANOL 200N	Novolac	Pale yellow chunk	50–110	125–145	Good durability and alkali resistance, good initial adhesion	Solvent type PU adhesives
TAMANOL 510	Novolac	Pale yellow flake	n/a	75–95	Good tackiness	Tackifier for SBR/EPDM
TAMANOL 521	Resole	Pale yellow chunk	n/a	100–115	Long tackiness retention	Tackifier for CR
TAMANOL 526	Resole	Pale yellow chunk	n/a	115–130	Tackiness and heat resistance balanced type	Tackifier for CR
TAMANOL 586	Resole	Pale yellow chunk	n/a	118–125	Excellent heat resistance and stability	Tackifier for CR

■ Terpene Phenolic Resin

Item / Product	Type	Appearance	Color (Gardner)	Acid Value	Softening Point (℃, R&B)	Features	Applications
TAMANOL 803L	Terpene phenolic	Pale yellow flake	Max. 9	45–60	145–160	Good heat resistance, high softening point	Adhesives, dismodule type CR adhesives
TAMANOL 901	Terpene phenolic	Pale yellow flake	Max. 9	50–90	125–135	Good heat resistance, high softening point	Adhesives, dismodule type CR adhesives

■ Disproportionated Rosin

Item / Product	Appearance	Solid (%)	pH	Color (USDA)	Acid Value	Softening Point (℃, R&B)	DAA Contents	Content	Applications
RONDIS R-CH	Pale yellow chunk	100	n/a	M or better	150–165	70–85	45–75	Disproportionated rosin	Emulsifier for synthetic rubber polymerization process
RONDIS K-25	Brown transparent liquid	24.5–25.5	10.2–10.8	n/a	n/a	n/a	K-DAA% Min. 10.	Disproportionated rosin soap	Emulsifier for synthetic rubber polymerization process

<Electronics>

■ **Cleaning Agent**

Item / Product	Type	Appearance	pH (5%aq)	Viscosity (mPa･s) (20℃)	Relative Density (20℃)	Flash Point (℃)	Applications
PINE ALPHA ST-100SX	Deflux cleaning	Light yellow transparent	6.9	9.4	0.96	None	PCB, flip chip
PINE ALPHA ST-180	Deflux cleaning	Colorless transparent	8.4	10	0.97	None	BGA, PGA, Flip chip
PINE ALPHA ST-180K	Deflux cleaning	Colorless transparent	9.9	9	0.96	None	BGA, PGA, Flip chip
PINE ALPHA ST-185FB	Deflux cleaning	Light yellow transparent	10.3	7.8	0.95	None	Narrow gap forBGA, Flip chip, WL
PINE ALPHA ST-231	Deflux cleaning for water soluble flux	Colorless transparent	7.7 (Undiluted)	6	1.00	None	Dilute for water solble flux, Flip chip
PINE ALPHA ST-241	Deflux cleaning (dilute type)	Light yellow transparent	8.5 (20%aq)	11.5	0.95	None	Dilute type, PCB
PINE ALPHA ST-240KK	Deflux cleaning (dilute type)	Light yellow transparent	10.0 (1%aq)	11.5	0.94	None	Dilute type, PCB
PINE ALPHA ST-240KL	Deflux cleaning (dilute type)	Light yellow transparent	8.3 (1%aq)	13.5	0.94	None	Dilute type, PCB
PINE ALPHA ST-252EVA	Deflux Cleaning, no rinse or dispose required	Light yellow transparent	11.4 (Undiluted)	5	1.00	None	PCB
PINE ALPHA ST-350N	Deflux for screen mask	Colorless transparent	n/a	Below 2	0.98	None	Screen mask, Pallet
PINE ALPHA ST-350VF	Deflux for screen mask	Colorless transparent	n/a	2.8	0.76	48	Screen mask, Pallet
PINE ALPHA ST-560EVA	Rinse agent	Colorless transparent	n/a	5	0.99	None	Prevent metal discoloration
PINE ALPHA ST-710	Particle removal	Light yellow transparent	11.8 (Undiluted)	10.4	1.00	None	Camera module, Abrasive particles remover after CMP process
PINE ALPHA ST-890C	Dissolution、Peeling、sweliing	Colorless transparent	5.3	7.7	1.04	None	Resin、Resist

■ **Solder Paste**

Item / Product	Type	Metal	Powder Size	Viscosity (Pa·s) (25℃)	Halide Content (wt%)	Applications
PINE SOLDER GSP	Pb-Free	Sn3.0Ag.0.5Cu	Type 4	130-190	0.06	Automotive PCB
PINE SOLDER PSP-V	Pb-Free	Sn3.0Ag.0.5Cu	Type 4	160-220	0.23	Automotive PCB
PINE SOLDER VAPY LF219	Pb-Free	Sn3.0Ag.0.5Cu	Type 4	160-240	0.10	PCB
PINE SOLDER XFP LF138	Low melting point, halogen-free	Sn58Bi	Type 4	140-200	None	PCB
PINE SOLDER VAPY-F	Pb-free	Sn3.0Ag.0.5Cu	Type 5	160-240	＜0.01	PCB
PINE SOLDER PSP-F	Pb-free, halogen-free	Sn3.0Ag.0.5Cu	Type 5	150-210	None	PCB
PINE SOLDER PSP SULA	Super Ultra Low Alpha	Sn1.4Ag.0.5Cu	Type 7	170-250	None	Interposer
PINE SOLDER TAS LF219T	Pre-coat solder	Sn3.0Ag.0.5Cu	Type 7	80-140	0.14-0.20	Interposer

■ **Post Flux**

Item / Product	Method of Application	Appearance	Viscosity (mPa·s) (25℃)	Solid Content (wt%)	Halide Content (wt%)	Applications
PINE FLUX WHD-001	Spin Coat	Pale yellow	14	40	None	Wafer bump
PINE FLUX WHP-002	Print/pin transfer	Dark Brown	9	70	None	Wafer bump, flip chip
PINE FLUX WHP-121	Print	Pale yellow	100	70	＜0.05	Interposer, Wafer bump, flip chip
PINE FLUX WHS-003C	Spray	Pale yellow	n/a	15	0.08	PCB
PINE FLUX WHS-001HF	Spray	Pale yellow	n/a	15	None	PCB, Zero Halogen
PINE FLUX WHD-003HF	Dip	Pale yellow	n/a	28	None	PCB

■ **Epoxy Resin Silica Hybrid**

Item / Product	Base Resin	Number of Silica Functional Group	Solvent	Solid Content (%)	Viscosity (mPa·s)(25℃)	Silica Content (wt%)	Features
COMPOCERAN E103A	Bisphenol-A epoxy	3	DMDG	50	15	35	No Tg, low absorption
COMPOCERAN E103D	Bisphenol-A epoxy	3	MEK	50	15	35	No Tg, low absorption

■ **Sil-Sesqui-Oxane Type Hybrid**

Item / Product	Functional Group	Solvent	Solid Content (%)	Viscosity (mPa·s)(25℃)	Silica Content (wt%)	Features
COMPOCERAN SQ107	Thiol	DMG/Toluene	72	50	44	High refraction index, transparent, flexibility (Heat/UV curable types available)
COMPOCERAN SQ109	Thiol	PGMEA	25	3	44	High boiling point solvent variation of SQ107
COMPOCERAN SQ506	Epoxy	PGMEA	72	200	35	Transparency, high reactivity(※frozen storage required)
COMPOCERAN SQ502-8	Epoxy	IPA/Toluene	70	50	35	Good adhesion to non-organic material,□ransparency

■ **Polyamideimide**

Item / Product	Base Resin	Solvent	Solid Content (%)	Viscosity (mPa·s)(25℃)	Silica Content (wt%)	Features
COMPOCERAN AI301	High Mw polyamideimide	NMP	19	8,000	0	General purpose, Flexibility

■ **Hybrid Polyimide Film**

Item / Product	Component	Thickness (μm)	Width(□m)	CTE (ppm/℃)	UL	Features
POMIRAN T	Silica hybrid polyimide	12, 15, 25, 38	250-1,100	4	94V-0	Good adhesion to metal, dimensional stability anti-migration, suitable for semi-additive process

■ **Thermoplastic Polyimide Solution**

Item / Product	Polyimide	Solvent	Solid Content (%)	Viscosity (mPa·s)(25℃)	Appearance	Features and Applications
PIAD100H	High Mw polyimide	Anone/MCH	30	500	Deep orange transparent	Adhesives for PCB, good flexibility and adhesivity, low dielectric characteristic
PIAD100L	Low Mw polyimide	Anone/MCH	30	300	Deep orange transparent	Adhesives for PCB, good compatibility and flexibility, low dielectric characteristic
PIAD130H	High Mw polyimide	Anone/MCH	30	1,500	Deep orange transparent	Adhesives for PCB, good flexybility and adhesivity, low dielectric characteristic
PIAD150H	High Mw polyimide	Anone/MCH	30	2,000	Deep orange transparent	Adhesives for PCB, good flexybility and adhesivity, low dielectric characteristic
PIAD150L	Low Mw polyimide	Anone/MCH	30	300	Deep orange transparent	Adhesives for PCB, good compatibility and flexibility, low dielectric characteristic
PIAD200	High Mw polyimide	Anone/MCH/DMG	30	1,000	Yellow transparent	Adhesives for PCB, high Tg and good compatibility, low dielectric characteristic
PIAD300	Medium Mw polyimide	Anone/MCH/DMG	30	500	Yellow transparent	Adhesives for PCB, high Tg and good compatibility