

Alcohol-soluble Polyamide Resins for Surface Printing Applications

Cognis is a leader in offering alcohol soluble thermoplastic polyamide resins. The inks based on these resins offer flexibility, color strength, gel resistance, crinkle resistance and adhesion on a variety of films. These resins are particularly suitable for formulating polyamide-nitrocellulose universal surface printing inks and high solids whites that dry very fast on a flexo central impression press.

Product Name	Comments/Advantages	Typical Properties					Solution Viscosity at 40% Solids, mPa.s ⁷				Gel Point of Solution, °C ⁸				Crinkle Resistance Tests ^{9,10} (10 = Best)			Tape Adhesion ¹¹ (10 = Best)	
		Softening Point °C ¹	Melt Viscosity @ 160° C, mPa.s ²	Gardener Color ³	Termination ⁴	Nitrocellulose Compatibility ^{5,6}	n-Propanol - 99.5%	Ethanol - 99%	Iso-Propanol - 99.5%	IPA/ VM & P Naphtha	n-Propanol - 99.5%	Ethanol - 99%	Iso-Propanol - 99.9%	IPA/ VM & P Naphtha	Ice Water Resistance (Polyethylene)	Dry Crinkle Resistance (Treated Polyester)	Dry Crinkle Resistance (Polyethylene)	Treated Polyester	Polyethylene (Bread bag)
Versamid 725	Excellent heat and block resistance. Recommended for alcohol soluble cold-seal release lacquers.	130	600	5	Ac	Y	82	49	94	65	10	20	20	15	8	10	10	10	10
Versamid 728	Excellent adhesion to treated films and foils. High viscosity for low cost inks. Nitrocellulose compatible.	110	1400	5	A	Y	220	115	260	224	-5	5	-5	<0	10	10	10	10	10
Versamid 744	Designed for high solids, all-purpose inks. One of the best resins for white inks. Excellent block resistance.	125	250	6	Ac	Y	65	27.5	70	95	0	-5	0	5	8.5	9	10	10	10
Versamid 750	Industry standard surface printing resin. Excellent alcohol reducibility, gel resistance, adhesion, and gloss. Also used in low cost N/C laminations.	116	750	6	A	Y	140	65	160	105	0	-5	0	-5	10	10	10	10	10
Versamid 753	General purpose polyamide, higher viscosity version of Versamid 750 , designed for lower cost formulations.	109	1700	5	A	Y	230	111	280	210	-5	0	5	0	9.5	10	10	10	10
Versamid 754	Acid terminated version of Versamid 750 with excellent gel resistance, adhesion and gloss.	116	600	5	Ac	Y	105	40	120	80	-5	0	0	0	9.5	10	10	10	10
Versamid 756	General purpose, lower viscosity version of Versamid 750 with excellent alcohol reducibility, adhesion and gloss.	110	550	5	A	Y	110	40	130	80	-10	0	0	0	9.5	10	10	10	10
Versamid 757	General purpose polyamide with good balance properties for high solids pigment dispersions and process printing.	116	400	5	A	Y	80	30	105	75	-5	0	0	5	9.5	10	10	10	10
Versamid 759	Very low viscosity solution resin. Recommended for ultra-high pigment load for concentrates, very high solids whites with fast drying speed.	110	200 (120°C)	5	Ac	Y	40	32.5	25	20	0	0	0	5	7.5	10	10	10	10
Versamid 795	Latest development for high solids process inks with improved adhesion and ice water crinkle, heat & block resistance	125	250	5	A	Y	68	37	82	74.5	-5	5	5	5	10	10	10	10	10
GAX 14-204	Suitable for low viscosity inks at high solids when ultimate gel resistance is not required. Excellent adhesion to treated films and foils.	124	120	6	Ac	Y	35	19	42	36	10	15	15	20	10	10	10	10	10

- (1) Ball & Ring Softening Point.
- (2) Melt Viscosity measured using Brookfield DVIII Viscometer #27 spindle at 160° C, except where noted.
- (3) Gardener Color tested at 40% total non-volatiles, in 1/1 toluene/n-butanol.
- (4) A = Amine; Ac = Acid ; B= Balance
- (5) Nitrocellulose Compatibility tested at 4 to 1 Resin to N/C (Hercules SS 1/4") solids in 60/40 n-propanol/n-propyl acetate.
- (6) Y = Yes

- (7) Viscosity at 25° C of 40% solids varnish in listed solvent using Brookfield DVIII Viscometer #21 spindle.
- (8) Gel Point, in °C, defined as the maximum temperature at which resin solution will no longer flow when inverted.
- (9) Ice Water Resistance rated after soaking varnish-printed film in ice water for 16 hours and crinkling for 100 cycles.
- (10) Dry Crinkle Resistance evaluated by crinkling printed film for 100 cycles 10 = Best and 1 = Worst).
- (11) Tape adhesion measured using 3M brand 610 tape (10 = Best and 1 = Worst).



Co-Solvent soluble Polyamide Resins for Surface Printing and Overprint Varnishes

As the original developer of co-solvent thermoplastic polyamide resins for surface printing on polyethylene, Cognis has continued to innovate to deliver high performance resins for surface printing. These resins are extensively used in inks and overprint varnishes which exhibit flexibility, heat resistance, outdoor durability and adhesion to a variety of substrates.



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		Softening Point °C ¹	Melt Viscosity @ 160° C, mPa.s ²	Gardener Color ³	Termination ⁴	Nitrocellulose Compatibility ^{5,6}	n-Propanol - 99.5%	n-PA/VM & P Naphtha	Ethanol/VM & P Naphtha	IPA/ VM & P Naphtha	n-Propanol - 99.5%	n-PA/VM & P Naphtha	Ethanol/VM & P Naphtha	IPA/ VM & P Naphtha	Ice Water Resistance (Polyethylene)	Dry Crinkle Resistance (Treated Polyester)	Dry Crinkle Resistance (Polyethylene)	Treated Polyester	Polyethylene (Bread bag)
Versamid 917	Heat resistant, lower viscosity version of Versamid 930 co-solvent polyamide resin for improved performance in cold seal release lacquers.	135	600	5	B	No	--	27 @30% solids	15 @30% solids	26 @30% solids	--	5	5	10	9	10	10	10	10
Versamid 930	Industry standard co-solvent polyamide with excellent adhesion, water resistance and gloss. Suitable for cold-seal release lacquers.	110	2400	5	B	Y	Gel	190	120	200	--	10	10	15	9	10	10	10	10
Versamid 940	The original low viscosity version of Versamid 930 for use where higher solids are desired.	110	1500	5	B	Y	Gel	125	75	130	--	10	10	15	9	10	10	10	10
Versamid 958	Alcohol soluble, N/C compatible version of Versamid 930 with improved flexibility and gel resistance.	105	2400	5	B	Y	267	215	130	230	5	5	0	10	8	7	10	10	10
Versamid 963	Amine terminated, intermediate viscosity polyamide with improved adhesion. Useful in cold-seal release lacquers and low-end laminations.	110	1800	5	A	Y	Gel	155	85	170	--	10	10	15	9	10	10	10	10
Versamid 967 GR	Alcohol soluble, amine terminated version of Versamid 940 with good gel resistance & improved adhesion to films.	107	1400	5	A	Y	252	192	120	194	10	5	5	10	10	10	10	10	10
Versamid JP39D	General purpose inks for gravure and flexo applications. Excellent flexibility, adhesion, gloss, water and grease resistance.	101	4100 (80°C)	5	A	Y	772	580	379	594	10	5	5	10	10	10	10	10	10
Versamid JP59D	Highest viscosity polyamide for gravure and flexo applications. Excellent grease and product resistance.	108	4000 (200°C)	5	A	Y	1200	930	590	914	15	10	5	15	10	10	10	10	10
Versamid JP609	Lower viscosity version of Versamid JP59D with improved gel resistance.	105	2300 (200°C)	5	A	Y	672	532	130	538	10	5	5	10	10	10	10	10	10
GAX 14-227	Highest molecular weight, alcohol soluble, novel polyamide. Designed for surface printing where outdoor durability and chemical resistance are required.	100	3200	6	A	Y	81 @30% solids	78 @30% solids	75 @30% solids	89 @30% solids	5	5	10	15	10	9.5	10	10	10

For further information and assistance please contact:

Dr. Sobhy El-Hefnawi
Global Market Manager, Graphic Arts
Cognis Corporation - USA
300 Brookside Avenue
Ambler, PA 19002-3498
Phone: +1-215-628-1226
email: polymers.coatings.inks@cognis.com

For reference numbers refer to opposite side

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