



NeoResins

NeoCryl A-6102

NeoCryl A-6102 is an aqueous, low particle size acrylic copolymer designed for coatings that require outstanding corrosion, water, and humidity resistance. Coatings formulated with NeoCryl A-6102 at **90 g/L VOC** retain high gloss, excellent corrosion resistance and chemical resistance, as well as good impact resistance. NeoCryl A-6102 also exhibits good adhesion to different metals and plastics. NeoCryl A-6102 is compatible with many water based urethanes, as well as water reducible alkyds and epoxies. NeoCryl A-6102 offers all properties and formulating capabilities necessary for performance success on metal.

Key Benefits

- Formulations < 100 g/L
- Corrosion, Humidity and Water Resistance
- UVA Stability
- Impact Resistance
- Chemical Resistance
- High Gloss
- Compatibility with Urethanes
- Compatible with Water Reducible Alkyds and Epoxies

Suggested Markets: Industrial Maintenance, General Metal, Automotive Metal

Typical Properties

Type	Styrenated acrylic
Appearance	Off white liquid
Total solids, by weight, %	40
Total solids, by volume, %	37.4
pH	9.1
Tg °C	34.5
Viscosity, Brookfield, 25°C, cps	110.0
Weight per gallon, 25°C, lbs	8.7
Freeze/thaw stability, cycles passed	5
Volatile Organic Compounds (grams per liter minus water)	0
Shelf life	1 year

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September 2004



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FORMULATING GUIDE

Co-solvents

Propylene Glycol n-Butyl Ether (PnB), Propylene Glycol Propyl Ether (PnP), Dipropylene Glycol Propyl Ether (DPnP), Dipropylene Glycol n-Butyl Ether (DPnB), Ethylene Glycol Propyl Ether (EP), Butyl Cellosolve (EB), Methyl Carbitol (DM), Carbitol (DE), Butyl Carbitol (DB), Propylene Glycol Methyl Ether (PM), Dipropylene Glycol Methyl Ether (DPM), 2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate (Texanol).

Depending on application conditions and VOC constraints cosolvent levels can range from 10-25 wt% on resin solids.

Defoamers

0.1 to 0.3 wt % on total formula: Foamstar A-36, Dehydran 1293, Patco 519, Foamaster 333, BYK 024

Wetting Agents

BYK 346, BYK 348

Mar Agents

BYK 301, BYK 307 at 0.1-0.2 wt % on total formulation

Dispersants

Tamol 165, Disperse-Ayd W-22, Petrolite D-1038, Dumasperse 525

Flash Rust Inhibitors

Ammonium Benzoate (10% in H₂O) – 0.5 - 1.0% on resin solids

Sodium Nitrite (10% in H₂O) – 0.5 to 1.0% on resin solids

Rheology Modifiers

Acrysol RM-825, Acrysol RM-2020 NPR, Rheolate 300, Natrosol Plus

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Performance Properties – Formulation WB-2110, Gloss White Topcoat

All testing performed on CRS panels, cured 1 week at 72° F and 50% RH. Dry film thickness was 1.75 to 2.0 mils.

All commercial products tested were manufactured by one of the top ten coatings manufacturers for the light duty maintenance market.

<i>Code</i>	<u>VOC g/L</u>	<u>% Vol Solids</u>
Commercial A	206	40.0
Commercial B	204	38.0
Commercial C	124	39.0
Commercial D	225	36.0
Commercial E	199	36.3
Commercial F	250	38.4
Commercial G	<200	38.5
NeoCryl A-6102	90.0	34.8

	Gloss			Viscosity		pH
	20°	60°	85°	ICI (P)	KU	
Commercial A	39.6	76.8	96.7	0.68	96.9	8.3
Commercial B	19.4	59.3	92.4	1.13	91.8	8.7
Commercial C	64.4	88.3	93.4	0.54	93.4	8.6
Commercial D	40.3	78.3	95.7	0.72	99.2	9.2
Commercial E	39.9	75.9	95.3	0.94	82.7	8.9
Commercial F	40.0	78.0	95.8	0.82	86.0	8.3
Commercial G	64.6	85.1	98.1	0.93	73.8	9.3
NeoCryl A-6102	41.2	76.2	97.8	0.74	85.3	9.0

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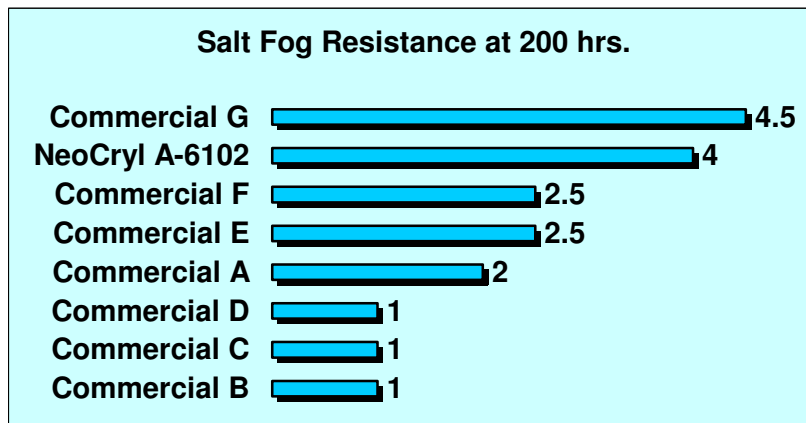


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Salt Fog

ASTM B-117-97

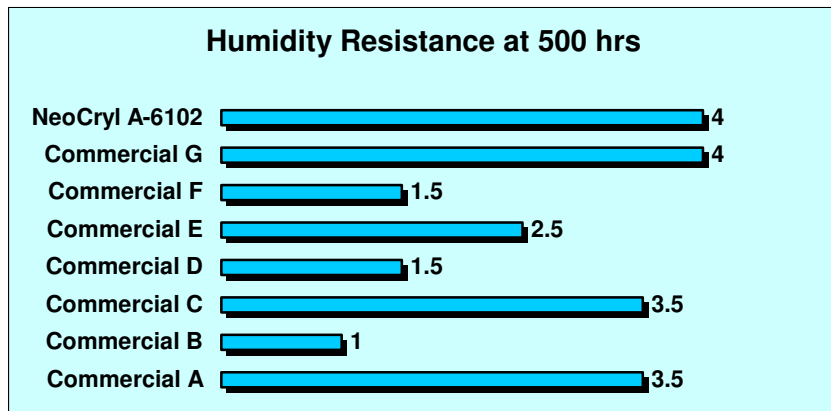
Panels Rated - 5 to 0, No Effect to Failure



Humidity Resistance

ASTM D-2244

Panels Rated - 5 to 0, No Effect to Failure



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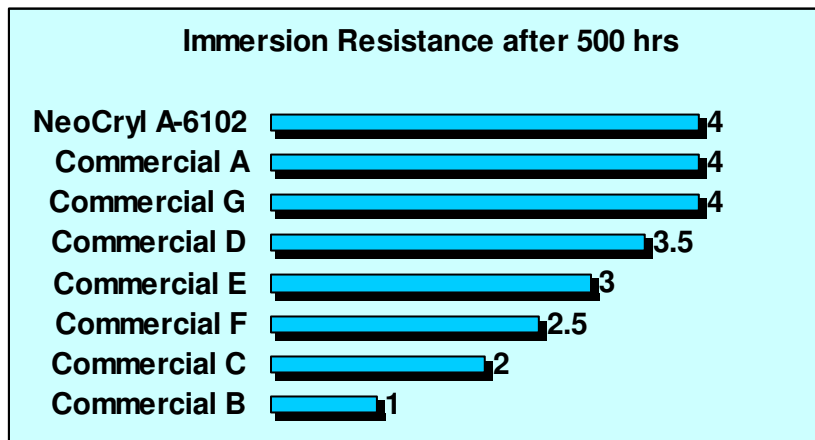


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Immersion Resistance

ASTM D 870-92

Panels Rated - 5 to 0, No Effect to Failure



	Chemical Resistance % of Perfect	Konig Hardness	Pencil Hardness	CRS Adhesion	Direct Impact Resistance	Conical Mandrel
Commercial A	85.0	20	H	5B	90	pass
Commercial B	85.0	34	H	5B	70	pass
Commercial C	61.3	17	2B	0B	70	pass
Commercial D	90.0	32	HB	4B	90	pass
Commercial E	92.5	25	HB	4B	60	pass
Commercial F	88.8	25	2H	5B	70	pass
Commercial G	90.0	7	5B	5B	110	pass
NeoCryl A-6102	90.0	16	HB	4B	70	pass

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Raw Material Suppliers

Material

Supplier

Arcosolv PnB Arcosolv DPnB Arcosolv DPnP Arcosolv PnP Dipropylene Glycol Methyl Ether (DPM) Propylene Glycol Methyl Ether (PM)	Lyondell Chemical (732) 652-7200
Methyl Cellosolve (EM) Cellosolve (EE) Ethylene Glycol Propyl Ether (EP) Butyl Cellosolve (EB) Methyl Carbitol (DM) Carbitol (DE) Butyl Carbitol (DB)	Dow (989) 832-1560
2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate (Texanol)	Eastman (423) 229-2000
BYK 346 BYK 348 BYK 307 BYK 024	BYK-Chemie, USA (203) 265-2086
Dehydran 1293 Foamaster 333 Foamstar A-36	Cognis (215) 628-1152
Patco 519	Patco Specialty Chemicals (800) 669-2250

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Raw Material Suppliers

Material

Supplier

Tamol 165
Acrysol RM-825
Acrysol RM-2020 NPR

Rohm & Haas
(215) 592-3000

Disperse - Ayd W-22

Elementis Specialties
(800) 866-6800

Dumasperse 525

Hi-Mar Specialties
(800) 449-1204

Rheolate 300

Rheox
(800) 866-6800

Natrosol Plus

Aqualon
(302) 594-5000

FOR YOUR PROTECTION

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