SPECIALTY POLYMERS, INC.®
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RayCryl® 1008

RayCryl 1008 Technical Bulletin

Self-Crosslinking 100% Acrylic Core-Shell Emulsion

RayCryl 1008 is a self-crosslinking core-shell acrylic polymer designed to provide excellent dirt pick-up, hot tire, and chemical resistance while meeting stringent VOC requirements for concrete sealer applications. The unique properties of RayCryl 1008 also provide good hardness, block resistance, adhesion, and water resistance.

Key Features

- Non-blushing
- Low VOC capable and APEO Free
- Outstanding dirt pick-up and hot tire exposure
- Excellent adhesion to concrete
- Resistant to household and garage chemicals

RayCryl 1008 Typical Physical Properties*

Polymer type	100% acrylic emulsion
Weight solids	45%
Viscosity (Brookfield Model RVT)	600 cps, #2/100 rpm
pH	9.0
Tg (DSC)	22/98 °C
MFFT (ASTM D-2354)	16 °C
Particle size (Mean)	0.09 micron
Surfactant charge	Anionic
Weight per gallon	8.90 lbs/gal
Freeze thaw stability	Do Not Freeze

** These properties are typical, but do not constitute specifications*

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Comparative Testing

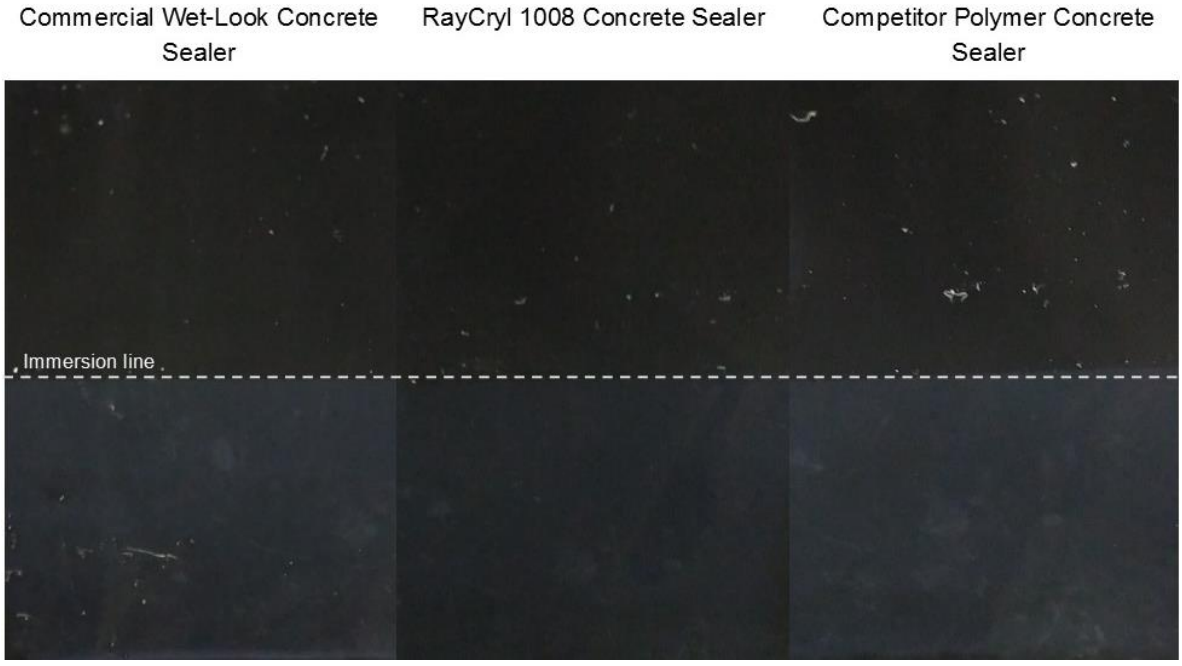
Concrete sealer formulated with RayCryl 1008 was compared to a commercially available wet-look concrete sealer and a competitor polymer concrete sealer.

Suggested Formulation

	Pounds	Gallons
Water	257.50	30.91
Proxel GXL	1.00	.11
Dynol 360	4.00	.48
DPnB	25.00	3.30
RayCryl 1008	580.00	65.07
Ammonium hydroxide (28%)	1.00	.13
Totals	868.50	100.00
Weight Solids	30.5%	
VOC (g/L)	<100	

Table 1. Wet-Look Concrete Sealer (< 100g/L VOC)

Water immersion/blushing resistance



Picture 1. 7 mil wet film thickness drawdown; cured at room temperature for 4 hours before being immersed in water for 24 hours to test for water whitening.

König Pendulum Hardness – ASTM D4366

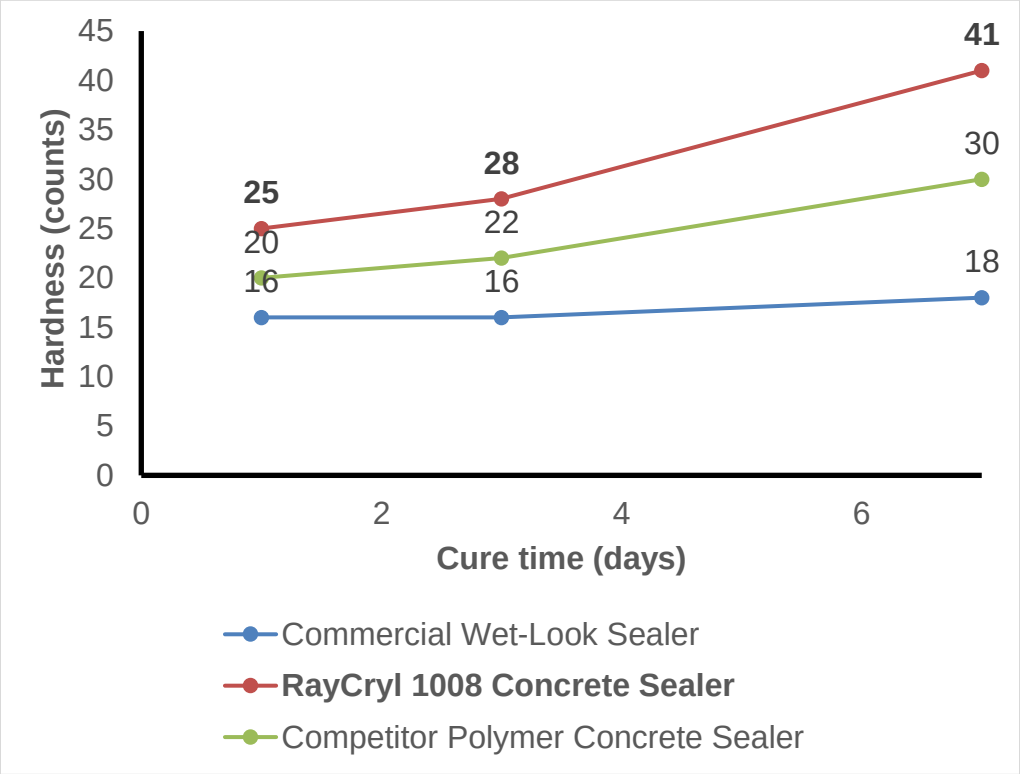


Figure 1. 6 mil wet film thickness on aluminum

Block resistance – ASTM D4946

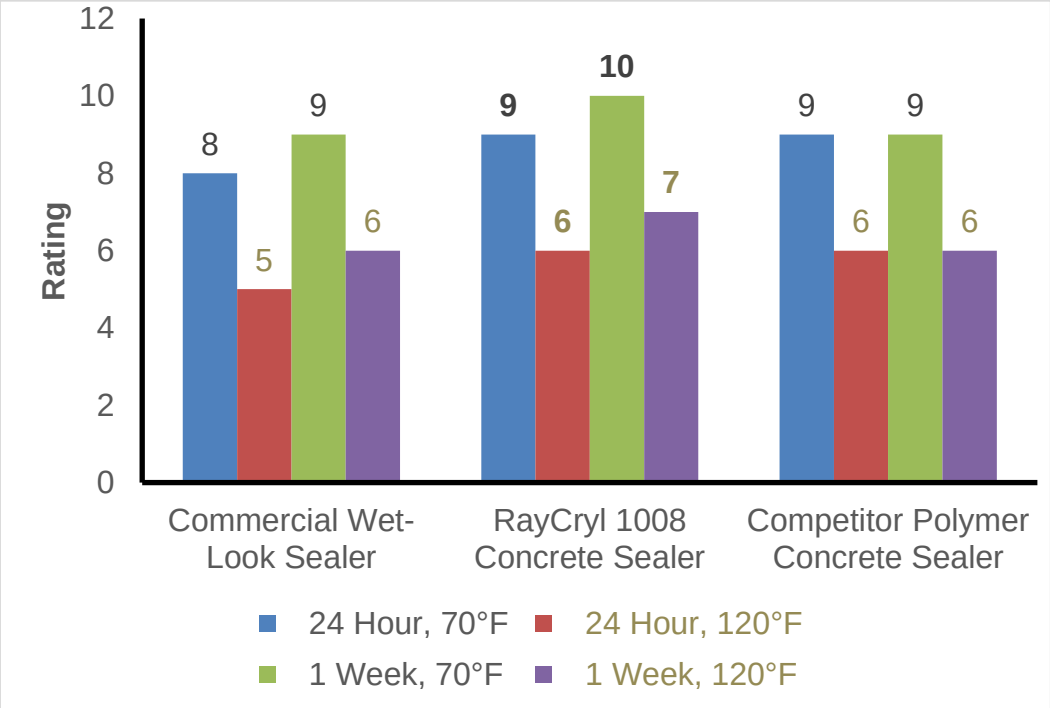


Figure 1. 6 mil wet film thickness on aluminum

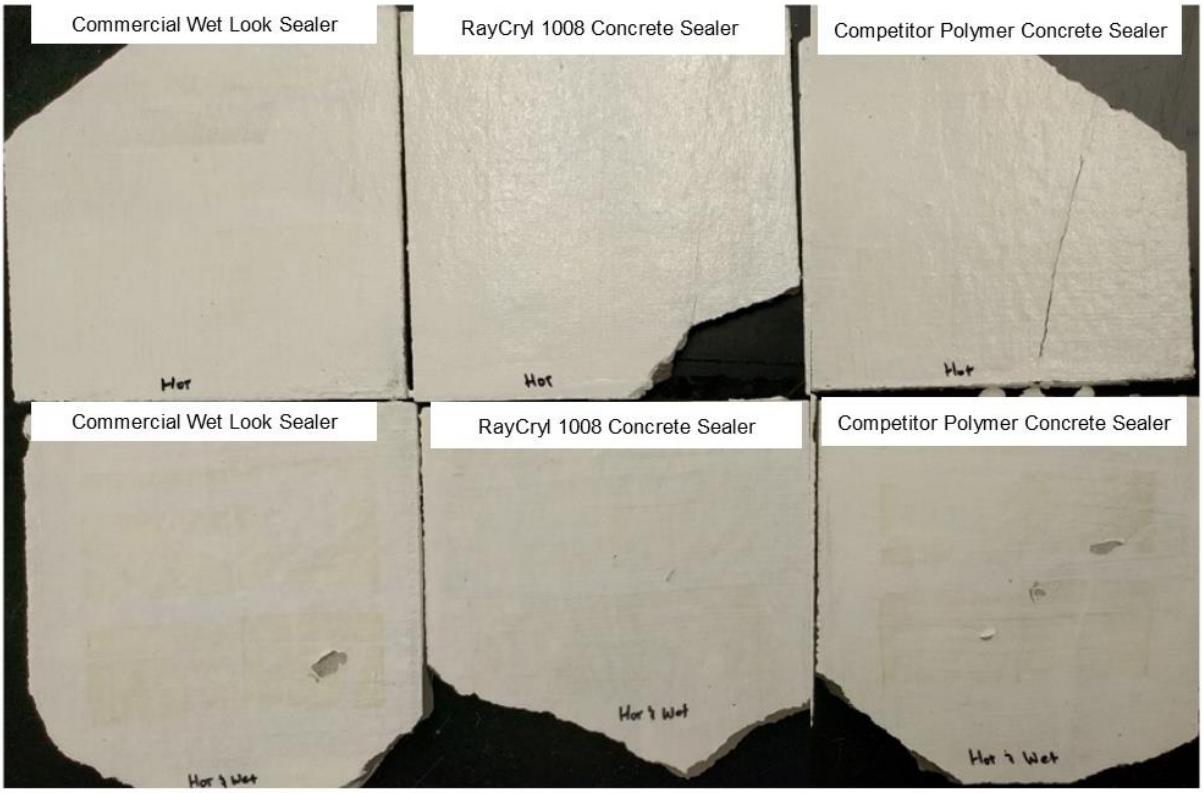
Resistance to Common Household Chemicals

	Commercial Wet-Look Sealer	**RayCryl 1008 Concrete Sealer**	Competitor Polymer Concrete Sealer
409 Cleaner	4	**5**	4
Coke	4	**5**	4
Coffee	4	**4**	3
Fantastik	4	**4**	4
Bleach	3	**5**	5
Nail Polish Remover	3	**3**	3
Windex	3	**5**	4
Brake Fluid	2	**4**	2
Transmission Fluid	3	**4**	5
Gasoline	0	**1**	1
Motor Oil	5	**5**	5
Windshield Wiper Fluid	4	**4**	4
Antifreeze	4	**4**	4
5% NaCl	4	**5**	4
Total Score (out of 70)	**47**	**58**	**52**

Table 2. 10 mil wet film thickness drawdown, air dry for 7 days, spot test for 1 hour.

Rating:
5 = no discoloration/no loss of gloss, no film defects
4 = slight staining/loss of gloss, no film defects
3 = dark staining/loss of gloss, no film defects
2 = film defects (swelling, blisters, lifting) , no discoloration
1 = film defects (swelling, blisters, tacky/softening), discoloration, loss of gloss
0 = total destruction of the film

Hot Tire Resistance Test



Picture 2. Coatings applied on concrete panels prepared with white epoxy floor coating for contrast. Samples cure for 7 days at room temperature and then subject to hot or hot and wet tire pieces (50°C) at 50 psi for 1 hour.

Solvent Compatibility

Solvent Level (based on polymer weight solids), %	2%	5%	10%
RayCryl 1008, MFFT 16			
VOC contributors	MFFT, degree C		
Texanol	15	12	5
Butyl Dipropasol (DPnB)	15	9	0
Methyl Dipropasol (DPM)	15	10	0
Propylene glycol phenyl ether (PPh)	12	6	-1
Butyl Cellosolve (EB)	16	12	-2
Butyl Propasol (PnB)	16	10	1
Non-VOC contributors	MFFT, degree C		
Propylene Carbonate	14	11	0
Optifilm 400	16	12	3
Benzoflex 50	14	11	4
Loxanol CA 5120	10	6	3
Loxanol CA 5310	12	9	1
KP-140	11	7	2
Efka PL5651	7	0	-5
Myrifilm	10	6	0