

Joncryl® 1987

Product Description	Joncryl 1987 is a self-crosslinking acrylic emulsion for industrial coating applications.
Key Features & Benefits	<ul style="list-style-type: none">- Good chemical resistance- Cold check resistance- Low VOC potential- Good adhesion
Chemical Composition	Acrylic emulsion

Properties

Typical Properties	Appearance		translucent emulsion
	Non-volatile at 145°C (2g, 60 minutes)	%	~ 42.0
	pH at 25 ± 1°C		~ 8.5
	Viscosity at 25°C (Brookfield #2LV, 60 rpm, 30 seconds)	cps	~ 100 – 900
Typical Characteristics	Density at 20°C	g/cm ³ (lbs/gal)	1.03 (8.58)
	MFFT	°C	12
	Tg	°C	14
	Freeze-thaw stable		No

* These typical values should not be interpreted as specifications.

Applications

Joncryl 1987 is a soft, flexible, one-pack, self-crosslinking acrylic emulsion that is non-formaldehyde emitting. A key use is for wood coatings that require resistance to various chemicals. Joncryl 1987 offers excellent clarity, chemical and excellent crack resistance. The resistance properties of Joncryl 1987 may allow its use in other applications, such as concrete coatings, specialty hardboard, and plastics.

Joncryl 1987 is recommended for applications such as:

- Interior/exterior wood coatings for millwork applications
- Interior/exterior concrete applications

Formulation Guidelines

Slip and Mar - In general, the use of 3 – 5% Joncryl Wax 26 wax emulsion (wax solids on resin solids) will be sufficient to improve slip and mar resistance of the coating. For added slip and mar resistance, a combination of Joncryl Wax 26 and Hydrolat® WE 3370 can be used.

Thickeners - Associative thickeners are preferred due to their minimal effect on gloss. Thickeners that offer some pseudoplasticity are useful in preventing sag.

Solvent Levels - The solvent package described in Formula 32004 - 4 provides good film formation with moderate hardness development. Decreasing the level of hydrophobic solvents, such as Dowanol¹ DPnB or Dowanol¹ PPh, will hasten hardness development, but may result in lower cold check resistance. Hydrophilic solvents, such as Diethylene glycol monobutyl ether (DB) and Ethylene glycol mono n-butyl ether (EB), may also be used as coalescers, but lower associative thickener efficiency will likely be observed.

Starting Point Formulations

The following starting point formulation is recommended for an initial evaluation of Joncryl 1987. Additional optimization of the formulation may be required to achieve desired results for specific applications.

Joncryl® 1987 CLEAR WOOD SEALER/TOPCOAT, Formula 32004 - 4

Materials	Pounds	Gallons
Joncryl® 1987	584.79	68.00
Hydropalat WE 3320	3.57	0.41
Premix:		
Water	110.56	13.27
Dowanol ¹ DPM	34.10	4.28
Dowanol ¹ DPnB	23.34	3.09
Dowanol ¹ PPH	7.14	0.81
Then add:		
FoamStar ST 2436	1.96	0.24
Joncryl® Wax 26	23.44	2.86
Hydropalat WE 3322	1.71	0.20
Premix:		
Dowanol ¹ DPM	4.93	0.62
Rheovis PU 1250 NC	3.02	0.34
Then add:		
Water	<u>49.00</u>	<u>5.88</u>
Total	847.56	100.00

Formulation Attributes

Solids	30.62% by wt, 30.26% by volume
VOC (calculated)	216.6 g/l, 1.81 lbs/gal

Coating Performance

Formula 32004-4

Bake schedule for panels tested for Chemical Resistance

Each coat = 4 – 5 wet mils on horizontal panel

Room temperature flash, 15 – 20 minutes

Bake 5 minutes at 140°F

Chemical Resistance

<i>One-hour Covered Spot Test (panels aged 3 days)</i>	Results
Water	No effect
50% Ethyl alcohol	No effect
70% Isopropyl alcohol	Moderate effect
NKCA soap solution	No effect
<i>24-hour Uncovered Spot Test (panels aged 14 days)</i>	
Vinegar	Slight effect
Orange juice	No effect
Grape juice	No effect
Ketchup	No effect
Lemon juice	No effect
Hot coffee	No effect
Formula 409 ²	Very slight effect
Mustard (1 hour)	No effect

Hot / Cold Cycles

1 hour at - 5°F / 1 hour at 120°F	No cracks after 20 cycles
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König Hardness

1 day	37 seconds
3 days	54 seconds
7 days	57 seconds

Joncryl® 1987 CLEAR WOOD SEALER/TOPCOAT, Formula 04-108-B

Materials	Pounds	Gallons
Joncryl® 1987	583.90	67.90
Dynol ³ 604	2.90	0.36
Premix:		
Water	149.50	17.94
Dowanol ¹ DPM	7.30	0.91
Dowanol ¹ DPnB	20.90	2.76
Dowanol ¹ PPH	3.70	0.42
Then add:		
Tego ³ Foamex 805	3.50	0.42
Joncryl® Wax 26	21.00	2.56
Tego ³ Glide 440	1.50	0.18
Premix:		
Dowanol ¹ DPM	5.00	0.63
Tafigel ⁴ PUR 50	5.40	0.64
Then add:		
Water	<u>43.90</u>	<u>5.28</u>
Total	848.50	100.00

Formulation Attributes

Solids	30.12% by wt, 28.47% by volume
Viscosity (Zahn #2)	25 – 35 seconds
VOC (calculated)	148 g/l, 1.23 lbs/gal

¹Trademark of The Dow Chemical Company.

²Registered trademark of The Clorox Company.

³Registered trademark of Evonik.

⁴Registered trademark of Munzing Chemie.

Safety**General**

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Joncryl 1987.

Storage

Please refer to the "Handling and Storage of polymer dispersions" brochure.

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