JONCRYL® 1980

Excellent Chemical Resistance

Good Scratch and Mar Resistance

Cold Check Resistance

Low Foaming

JONCRYL® 1980

Self-Crosslinking

Acrylic Emulsion

TYPICAL PHYSICAL CHARACTERISTICS*:

Appearance	Translucent liquid
pH	7.8
Solids, % by Weight	40
Viscosity, cP @ 25°C	140
T_g, °C	78
MFFT, °C	45
Density as supplied, lbs/gal	8.6
Freeze/Thaw	No

**These values should not be interpreted as specifications.*

JONCRYL® 1980 - Emulsion is a one package, self-crosslinking acrylic emulsion that is non-formaldehyde emitting. A key use is for wood coatings that require resistance to various chemicals. JONCRYL 1980 Emulsion offers excellent clarity, low foaming, and excellent crack resistance. The chemical resistance of JONCRYL 1980 Emulsion may allow its use in other applications, such as concrete coatings, specialty hardboard and plastics.

FORMULATION GUIDELINES:

- ***Slip and Mar -*** In general, the use of 3-5% JONWAX® 26 (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 JONWAX® 26 and 0.2% (on total formula) of Tego Glide 440 can be used.

- ***Thickeners -*** Associative thickeners are preferred due to their minimal effect on gloss. Thickeners such as Tafigel® PUR 50 and PUR 40 can be used to adjust viscosity. Thickeners that offer some pseudoplasticity are useful in preventing sag.

- ***Solvent Levels -*** The solvent package described in formulation #3197-A provides good film formation with moderate hardness development. Decreasing the level of hydrophobic solvents such as DPnB or PPh will hasten hardness development, but may result in lower cold check resistance. Hydrophilic solvents, such as DB and EB, may also be used as coalescers, but lower associative thickener efficiency will likely be observed.

STARTING POINT FORMULATIONS:

JONCRYL® 1980
Clear Wood Sealer/Topcoat
Formula# 3197-A

MATERIALS	POUNDS	GALLONS
JONCRYL 1980	609.3	71.09
Dynol® 604	2.9	0.36
Premix Next Four (4) Items:		
Water	90.0	10.80
Dowanol® DPM	33.9	4.27
Dowanol DPnB	23.1	3.06
Dowanol PPH	7.1	0.81
Then Add:		
Tego® Foamex 805	3.5	0.42
Jonwax® 26	20.8	2.54
Tego® Glide 440	1.5	0.18
Premix DPM and Tafigel, then add water:		
Dowanol® DPM	4.9	0.62
Tafigel® PUR 50	5.4	0.63
Water	43.6	5.23
TOTALS	**846.0**	**100.00**

Formulation Attributes:

Solids, % by Weight	30.0
Solids, % by Volume	28.4
Viscosity, seconds, #2 Zahn	35-40
Calculated VOC	
g/l	227
lbs/gal	1.89

PERFORMANCE EVALUATION:

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 @ 140°F

Chemical Resistance

(Panels aged three days) One hour covered spot test

Water	No Effect
50% Ethyl Alcohol	No Effect
70% Isopropyl Alcohol	Very Slight Effect
NKCA Soap Solution	No Effect

(Panels aged 14 days) 24 hour uncovered spot test

Vinegar	No Effect
Orange Juice	No Effect
Grape Juice	No Effect
Ketchup	No Effect
Lemon Joice	No Effect
Hot Coffee	No Effect
Formula 409 Cleaner	No Effect
Mustard (1 Hour)	No Effect

Boiling Water/Mug Test - 15 Minutes — No Permanent Whitening, Slight Ring

Hot / Cold Cycles — No Cracks After 20 Cycles

One Hour @ -5 °F One Hour @ 120°F

STARTING POINT FORMULATIONS:

JONCRYL® 1980 / U4188 Blend
Clear Wood Sealer/Topcoat
Formula# 3248-H

MATERIALS	POUNDS	GALLONS
JONCRYL 1980	487.9	56.93
JONCRYL U4188	128.4	14.59
Dynol® 604	4.1	0.51
Tego® Foamex 800 Defoamer	2.0	0.23
Premix Next Three (3) Items:		
Water	156.1	18.74
Dowanol® DPM	24.4	3.07
Dowanol DPnB	12.2	1.61
Then Add:		
Jonwax® 26	28.0	3.41
Tego® Glide 440	1.7	0.20
Tego® Foamex 800 Defoamer	2.0	0.23
Zonyl® FSJ Flourosurfactant	0.8	0.09
Tafigel® PUR 40 Thickener	3.5	0.39
TOTALS	**851.1**	**100.00**

Formulation Attributes:

Solids, % by Weight	30.2
Solids, % by Volume	28.4
Viscosity, seconds, #2 Zahn	35-40
Calculated VOC	
g/l	166
lbs/gal	1.38

JONCRYL® 1980 Self-Crosslinking Emulsion
Pigmented Concrete Sealer Low VOC
Formula# Concrete 3

MATERIALS	POUNDS	GALLONS
Water	85.4	10.25
Propylene Glycol	24.4	2.83
AMP-95	0.2	0.02
Byk 022	3.8	0.45
Tamol 731	9.4	1.02
Acrysol RM-2020	2.8	0.33
R-902	94.3	2.83
Minex 7	70.7	3.26
Minex 4	70.7	3.26
Disperse high speed for 30 minutes, Then add:		
JONCRYL 1980	490.7	57.26
Premix Next Four (4) Items:		
Water	37.7	4.53
Dowanol® DPM	17.6	2.21
Dowanol® DPnB	20.5	2.71
Dowanol® PPH	4.8	0.55
Then Add:		
Byk 024	3.8	0.45
Water	44.8	5.38
Proxel DL	0.5	0.05
Jonwax® 120	9.4	1.16
Mix for 5 Minutes, then add:		
Acrysol® RM-2020	5.3	0.61
Acrysol® RM-825	7.4	0.85
TOTALS	**1004.0**	**100.00**

Formulation Attributes:

Solids, % by Weight	44.7
Solids, % by Volume	33.1
Viscosity, KU's	90-100
Viscosity,ICI Poise	0.75 - 0.85
Calculated VOC	
g/l	195
lbs/gal	1.63

Testing Results for Concrete Coatings
Based on JONCRYL® 1980

Chemical Resistance* (softness/appearance) **1 Hour Spot Test**	**Clear**	**Pigmented**
Water	10/10	10/10
10% NaOH	10/9	9/10
409 Cleaner	10/10	10/9
Brake Fluid	3/9	4/5
70% IPA	10/10	10/8
Gasoline	10/10	10/9
Water Resistance* - 1 Hour Spot Test After		
24 hours Dry	No Effect	No Effect
1 Week Dry	No Effect	No Effect
Hot Tire Pickup (Color/tack)	8/medium	8/medium
Wet Adhesion - Tile	5B	5B
Wet Adhesion - Concrete	NA	4B-5B

*

**After one hour recovery*

SUPPLIER INFORMATION:

Product	Description	Supplier
JONCRYL® 1980	Polymer	Johnson Polymer
Acrysol® RM-2020	Thickeners	Rohm & Haas
Acrysol RM-825	Thickeners	Rohm & Haas
AMP-95	Amine	Angus
BYK® 022	Defoamer	BYK Chemie
BYK® 024	Defoamer	BYK Chemie
Dynol® 604	Wetting Agent	Air Products
Dowanol® DPM	Solvent	Dow Chemical
Dowanol DPnB	Solvent	Dow Chemical
Dowanol PPh	Solvent	Dow Chemical
Foamex® 805	Defoamer	Tego Chemie
Jonwax® 26	Wax Emulsion	Johnson Polymer
Minex 4	Extender	Unimin
Minex 7	Extender	Unimin
Propylene Glycol	Solvent	Dow Chemical
Proxel DL	Preservative	Avecia
R-902	TiO_2 Pigment	DuPont
Tego® Glide 440	Slip Agent	Tego Chemie
Tafigel® PUR 50	Thickeners	Ultra Additives
Tamol® 731	Dispersing Aid	Rohm & Haas

www.johnsonpolymer.com

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