

# Joncryl<sup>®</sup> 1532

<b>Product Description</b>	Joncryl 1532 is an acrylic emulsion for maintenance and industrial coating applications.
<b>Key Features &amp; Benefits</b>	<ul style="list-style-type: none"><li>- Excellent adhesion to a variety of substrates</li><li>- Humidity resistance</li><li>- Corrosion resistance</li></ul>
<b>Chemical Composition</b>	Acrylic emulsion

## Properties

<b>Typical Properties</b>	Appearance		opaque emulsion
	Non-volatile at 145°C (2g, 60 minutes)	%	~ 51
	pH at 25°C		~ 8.0
	Viscosity at 25°C (Brookfield #2LV, 30 rpm, 30 seconds)	cps	~ 400
	Density at 20°C	g/cm <sup>3</sup> (lbs/gal)	1.03 (8.57)
	Tg	°C (°F)	12 (53.6)
	Freeze-thaw stable		Yes

These typical values should not be interpreted as specifications.

## Applications

Joncryl 1532 is an acrylic emulsion designed to provide adhesion to a variety of substrates, humidity resistance, water resistance, and corrosion resistance. This emulsion has utility in primer/topcoat and direct-to-metal applications. Joncryl 1532 also provides excellent tannin and stain blocking properties in topcoat applications.

Joncryl 1532 is recommended in applications such as:

- Interior/exterior general metal coating applications
- Interior/exterior wood coatings for flooring, furniture, or millwork applications
- Interior/exterior plastic component coating applications
- Interior/exterior concrete coating applications

## Formulation Guidelines

**Coalescence** – Joncryl 1532 is a room temperature film former and can be formulated without added coalescing solvents. This allows the formulation of coatings approaching zero VOC. However, performance dramatically improves as the co-solvent level is increased. A minimum of 10% on resin solids of most co-solvents is recommended, and 15 – 20% on resin solids will generally give optimum properties. A wide range of solvents including HAPS-free solvents can be used with Joncryl 1532.

Blends of Ethylene glycol monobutyl ether and Diethylene glycol monobutyl ether have been found to provide excellent performance, while Diethylene glycol methyl ether has been found to provide good early water spot resistance. Texanol<sup>1</sup> has been found to be useful for film formation under severe conditions, such as 40° F and 90% humidity.

<sup>1</sup>Trademark of Eastman Chemical Company

**Dispersion Characteristics** - Joncryl 1532 is shear stable and can be used as a grind vehicle if great care to temperature development and dispersion time is given. Using Joncryl 1532 in the grind however is not normally recommended. Long dispersion times or high viscosity grind bases will generate heat, which causes the system to lose amine and gelation can occur. If dispersion in Joncryl 1532 is desired, a slower amine such as DMEA (dimethyl ethanolamine) can be added to compensate for amine lost during the dispersion phase. Normally 2 – 5 pounds added as a 50% solution in water will stabilize the system sufficiently; however, good manufacturing practice will still be important.

**Pigment Selection** - Inhibitive pigment selection is also important for good corrosion resistance and long-term package stability. Halox<sup>2</sup> SW-111 has been found compatible in most formulations. Inhibitive pigments such as Halox<sup>2</sup> SZP-391, Butrol<sup>3</sup> 22, and Busan<sup>3</sup> 11-M1 can be used with proper formulation technique. It is important to add inhibitive pigments before other pigments to avoid problems during the dispersion phase. Inhibitive pigments such as Nalzin<sup>4</sup> 2, Heucophos<sup>5</sup> ZMP and Heucophos<sup>5</sup> ZPA have not exhibited compatibility with Joncryl 1532. Extender pigments have not been found to be problematic and standard formulating practices can be followed.

**Defoamer Selection** – The selection of defoamers is formulation dependent. BYK<sup>6</sup>-024 has been found to give good overall utility in most formulations. BYK<sup>6</sup>-020 in the grind and BYK<sup>6</sup>-080 in the let-down may prove useful in more difficult formulations, but this combination is more sensitive and can cause application problems.

**Starting Point Formulations**

The following starting point formulations are recommended for an initial evaluation of Joncryl 1532. Additional optimization of the formulations may be desired to achieve maximum suitability for specific applications.

**Joncryl<sup>®</sup> 1532 SEMI-GLOSS DIRECT-TO-METAL, Formula 250-U**

<b>Materials</b>	<b>Pounds</b>	<b>Gallons</b>
Joncryl <sup>®</sup> 1532	132.0	15.40
Water	44.0	5.28
BYK <sup>6</sup> -024	1.8	0.20
Surfynol <sup>7</sup> 104-H	4.4	0.56
BYK <sup>6</sup> -156	3.0	0.35
<b>Add while mixing:</b>		
Halox <sup>2</sup> SW-111	61.6	2.58
Ti-Pure <sup>8</sup> R-902	132.00	3.96
Imsil <sup>9</sup> A-10	71.7	3.25
<b>Disperse at high speed to 5 Hegman, then add:</b>		
Joncryl <sup>®</sup> 1532	359.5	41.94
Water	58.9	7.07
<b>Premix:</b>		
Ethylene glycol monobutyl ether	70.1	9.34
Dipropylene glycol monomethyl ether	37.8	4.75
Then add slowly:		
BYK <sup>6</sup> -024	1.8	0.20
<b>Premix, then add slowly:</b>		
Raybo <sup>10</sup> 60	12.0	2.15
Water	20.0	2.40
<b>Total</b>	<b>1,010.5</b>	<b>99.43</b>

**Formulation Attributes**

Solids	51.6% by wt, 40.0% by volume
Viscosity	400 cps
Density	10.25 lbs/gal
PVC	24.74%
VOC	243 g/l, 2.03 lbs/gal

<sup>2</sup>Registered trademark of ICL Performance Products LP.

<sup>3</sup>Registered trademark of Buckman Laboratories International, Inc.

<sup>4</sup>Registered trademark of Elementis Specialties, Inc.

<sup>5</sup>Registered trademark Heubach GmbH.

<sup>6</sup>Registered trademark of BYK Additives.

<sup>6</sup>This product has been discontinued. Contact a BYK representative for a suitable replacement.

<sup>7</sup>Registered trademark of Air Products and Chemicals, Inc.

<sup>8</sup>Trademark of The Chemours Company TT, LLC.

<sup>9</sup>Registered trademark of UNIMIN Corporation.

<sup>10</sup>Registered trademark of Raybo Chemical Company

**Typical Properties for maintenance applications**

Gloss, 20°, 60°	4, 25
Hardness	2B
Prohesion corrosion resistance, 30 weeks	Excellent
Seaside exposure (250 meter), 1 year	Outstanding
Salt spray corrosion resistance, 300 hours (top coated)	Fair

**BONDING PRIMER FORMULATION**

This formulation can be applied over concrete/ceramic tiles to help improve adhesion of the topcoat to the substrate.

<b>Materials</b>	<b>Pounds</b>	<b>Gallons</b>
Joncryl® 1532	49.0	5.7
Water	51.0	6.1
<b>Total</b>	<b>100.0</b>	<b>11.8</b>

**Formulation Attributes**

Resin non-volatiles	25.0% wt
Density	8.5 lbs/gal

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**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 1532.

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**Storage**

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

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## Important

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