We create chemistry

# Joncryl® 1921

***Product Description*** **Joncryl 1921 is an acrylic emulsion offering a balance between block resistance and adhesion properties for hardboard primer coatings.**

***Key Features & Benefits***

***- Very good block resistance***
***- Excellent water resistance***
***- Very good wet and dry adhesion on multiple substrates***
***- Low VOC***

***Chemical Composition*** **Acrylic emulsion**

## Properties

***Typical Properties***

| | | |
|---|---|---|
| Appearance | | semi-translucent emulsion |
| Non-volatile at 145°C (2g, 60 minutes) | % | 45 |
| pH at 25°C | | 8.8 |
| Viscosity at 25°C (Brookfield #3LV, 30 rpm, 60 seconds) | cps | 1200 |

***Typical Characteristics***

| | | |
|---|---|---|
| Density at 20°C | g/cm$^3$ (lbs/gal) | 1.04 (8.68) |
| MFFT | °C | 12 |
| Tg | °C | 25 |
| Freeze-thaw stable | | Yes |

* These typical values should not be interpreted as specifications.

## Applications

Joncryl 1921 is a unique acrylic emulsion that exhibits low minimum film forming temperature yet offers excellent block and water resistance. Joncryl 1921 is ideally suited for high PVC primers used over hardboard and cement fiberboard substrates.

Joncryl 1921 is recommended for applications such as:

- Interior/exterior primers on wood, hardboard, cement fiberboard, and composite wood
- Interior/exterior primers on metal

***Formulation Guidelines***

**Solvent Levels** – Normal primer cure temperatures range from 180 – 250°F maximum board surface temperature. This is generally enough heat to obtain a good performing film, even at PVC's in excess of 55. The addition of low levels of ethylene glycol mono butyl ether, propylene glycol n-butyl ether, or propylene glycol t-butyl ether may further enhance film formation. Caution should be taken not to include too much solvent, as this may encourage blistering or blocking of the coating.

***Performance Evaluation***

**Water Resistance** - The Cobb test was performed according to ASTM D 5795-95. Joncryl 1921 neat resin was cured to a board surface temperature (BST) of 180°F. Test result was 3.7 Cobb units.

**Block Performance –** Neat resin is drawn down on medium density fiberboard (MDF) and cured to a BST of 180°F. After cooling to 130°F, boards are placed face-to-face in a carver press at 500

psi for 8 minutes. Joncryl 1921 had no blocking; boards separated without force and without damage to the coating surface.

**Adhesion** –

As a neat resin, Joncryl 1921 passes wet adhesion when drawn down on an aluminum panel, baked to a BST of 180°F, x-scribed, and soaked in water for 16 hours.

The starting point formulations drawn down on MDF, baked to BST of 250° F, cooled to a BST of 150°F and X-scribed then tested using 250 tape resulted in very good dry and wet adhesion with little adhesion failure at coating substrate interface; mostly substrate failure.

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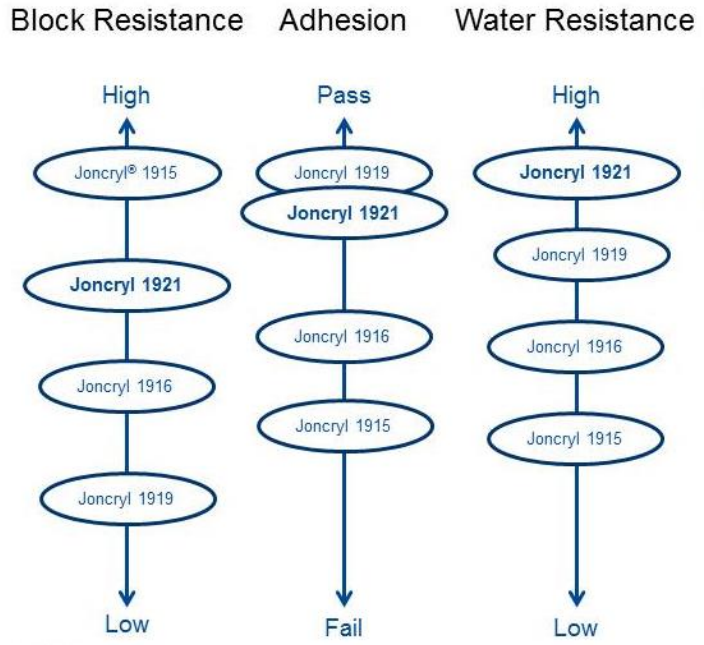
General property comparison with other Joncryl primer emulsions:

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***Starting Point Formulations***

The following starting point formulations are recommended for an initial evaluation of Joncryl 1921. Additional optimization of the formulations may be required to achieve desired results for specific applications.

**Joncryl 1921 HARDBOARD PRIMER, 50 PVC Formula 32004 - 8A**

| **Materials** | **Pounds** | **Gallons** |
|---|---|---|
| Joncryl 1921 | 236.3 | 27.42 |
| Water | 48.8 | 5.86 |
| FoamStar® SI 2292 NC | 4.3 | 0.58 |
| DMEA (Dimethyl ethanolamine) | 2.6 | 0.35 |
| Ti-Pure[1] R-902 | 245.8 | 7.38 |
| Atomite[2] Calcium carbonate | 451.4 | 20.06 |
| **Disperse to 5 Hegman** | | |
| **Let-down:** | | |
| Water | 163.0 | 19.56 |
| Joncryl 1921 | 157.5 | 18.27 |
| FoamStar® SI 2292 NC | 2.2 | 0.29 |
| Rheovis® PU 1250 EC | 2.1 | 0.23 |
| **Total** | **1,314.0** | **100.00** |

**Formulation Attributes**

| | |
|---|---|
| Solids | 67.3% by wt, 48.2% by volume |
| Viscosity | 50 cps |
| PVC | 57.0% |
| VOC (calculated) | 21 g/l, 0.17 lbs/gal |

*[1]Trademark of The Chemours Company.*
*[2]Registered trademark of EEC America Inc. Corporation*

**Joncryl 1921 HARDBOARD PRIMER, 35 PVC Formula32004 – 8B**

| Materials | Pounds | Gallons |
|---|---|---|
| Joncryl 1921 | 245.5 | 28.5 |
| Pluronic® 31R1 | 8.3 | 1.0 |
| CAB-O-SIL[3] M-5 | 4.0 | 0.2 |
| FoamStar® ED 2522 NC | 4.0 | 0.5 |
| Water | 53.3 | 6.4 |
| DMEA (Dimethyl ethanolamine) | 2.5 | 0.3 |
| Ti-Pure[1] R-902 | 123.6 | 3.7 |
| Minex[4] 12 | 40.6 | 1.9 |
| Nicron[5] 402 | 50.9 | 2.2 |
| ASP® 200 | 50.9 | 2.4 |
| **Grind at 2000 RPM for 20 minutes** | | |
| Water | 90.0 | 10.8 |
| Joncryl 1921 | 88.6 | 10.3 |
| Hydropalat® WE 3220 | 3.2 | 0.4 |
| Rheovis® PU 1250 EC | 2.0 | 0.2 |
| **Total** | **767.4** | **68.7** |

**Formulation Attributes**

| | |
|---|---|
| Solids | 58%by wt, 44% by volume |
| Viscosity | 60 cps |
| PVC | 34.7% |
| VOC (calculated) | 11.87 g/l, 0.10 lbs/gal |

*[3]Registered trademark of Cabot Corporation.*
*[4]Registered trademark of UNIMIN Corporation.*
*[5]Registered trademark of Imerys Talc America, Inc.*

## 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 1921.

## Storage

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

## Important

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