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water based industrial polymers



Ottopol WRX-40 Technical Data Sheet

Product Specifications

Description ----- Anionic Acrylic Emulsion
Solids ----- 42.0 - 44.0%
pH----- 7.2 – 7.8
Viscosity ----- 100 cps Max
Flash Point ----- Same as Water
MFPT ----- 40 Degrees C
Tg ----- 39 Degrees C

Appearance----- Translucent Emulsion
Specific Gravity ----- 1.06165
Weight/Gallon ----- 8.85
Freeze Thaw Stability - Keep from Freezing
FDA Status-----None
USDA Status-----None

Self Cross Linking Acrylic Polymer Emulsion

Ottopol WRX-40 is a unique acrylic polymer that results in a high density cross linked polymer upon drying at room temperature. Many Coatings can be derived from this polymer where solvent resistance is required.

Coatings for Concrete

Concrete Coating Starting Point Formula #600-272-1A (Pre-Mix Component 2 & 3 and add to Component 1)

| | |
|--|------------|
| 01. Ottopol WRX-40 ----- | 655.7 |
| 02. Water ----- | 262.3 |
| 03. Glycol Ether EB (Butyl Cellosolve) ----- | 78.7 |
| 04. BYK-028 Defoamer ----- | 2.6 |
| 05. BYK-3450----- | <u>0.7</u> |
| | 1000.0 |

Concrete Coating Specifications

| | |
|-----------------|--------------|
| Solids ----- | 27.0 – 29.0% |
| pH----- | 7.0 – 8.0 |
| Viscosity ----- | 100 cps Max |

The Concrete Coating's Attributes

The WRX-40 has been internally modified from an interior wood coating to a concrete coating. The evaluation is ongoing at this time. Here are the current results of testing on concrete using the lab number of 600-272-1A, which is a formulated version of Ottopol WRX-40:

Concrete Coating Performance Evaluation | 600-272-1A

1. Moisture Wicking / Submersion Test

Objective: Evaluate the resistance of the 600-272-1A coating to moisture intrusion, blistering, and blushing when exposed to prolonged water wicking through a concrete substrate.

Procedure:

- A concrete block was cast and allowed to cure for **4 hours**.
- One coat of **600-272-1A** was applied using a bristle brush.
- The coated block was allowed to **air dry for 48 hours**.
- The block was then placed into a shallow pan filled with water so that **half of the block was submerged**. Moisture was allowed to migrate upward through the concrete and into the coated region.
- The exposure period lasted **2 weeks**.

Results:

- No blushing observed.
- No blistering or bubbling.
- **No film defects** such as lifting, softening, discoloration, or loss of adhesion.
- Coating remained fully intact after prolonged moisture wicking.

Conclusion: 600-272-1A demonstrates **excellent moisture resistance** and shows no sensitivity to extended water exposure via substrate wicking.

2. Chemical Spot-Resistance Test

Objective: Assess short-term spot resistance of the coating to common automotive and household liquids.

Procedure:

- A concrete block cured for **15 days** was used.
- One coat of **600-272-1A** was applied with a bristle brush and allowed to **air dry for 24 hours**.
- Small drops of the following liquids were placed on the coating surface:
 - ❖ Brake Fluid
 - ❖ Motor Oil
 - ❖ Transmission Fluid
 - ❖ Windshield Wiper Fluid
 - ❖ Antifreeze
 - ❖ Bleach

The chemicals remained on the surface for **5 hours** and were then wiped off.

Results:

- **Brake Fluid:** No visible effect.
- **Motor Oil:** No visible effect.
- **Antifreeze:** No visible effect.
- **Windshield Wiper Fluid:** Left a **small blue ring** on the coating surface (dye staining only). This was easily removed with a household cleaner.
- **Transmission Fluid:** **Partially penetrated** the coating in one small localized spot, staining the concrete below. The remainder of the drop did **not** penetrate. After several day the stain disappeared.
- **Bleach:** Caused **slight surface damage**, though the coating remained mostly intact and did not fail completely.

Conclusion: 600-272-1A provides **good general chemical resistance** to common automotive fluids, with minor susceptibility to dye-containing liquids (wiper fluid) and stronger polar solvents/oxidizers (transmission fluid in one spot and bleach). The stain of the transmission fluid did disappear over time. Overall, the coating-maintained integrity and adhesion after chemical exposure.

Overall Performance Summary

- Strong resistance to **prolonged water exposure** with no blushing, blistering, or coating degradation.
- Coating remained structurally sound in all tests, showing no peeling, softening, or delamination.

3. Stain Resistance to Common Household Items

WRX-40 has excellent stain resistance when exposed to the following items for a minimum of **16 hours**:

- ❖ Black Berry Juice,
- ❖ Black Tea,
- ❖ Butter,
- ❖ Cola,
- ❖ Condensed Milk,
- ❖ Detergent Solution,
- ❖ Instant Coffee,
- ❖ Olive Oil.

WRX-40 has excellent stain resistance when exposed to the following items for a minimum of **6 hours**:

- ❖ Beer,
- ❖ Mustard,
- ❖ Onion,
- ❖ Sodium Chloride Solution 5%,
- ❖ White/ Red Wine

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