

# FORSCH POLYMER CORP.

## URS 2790

## TECHNICAL DATA BULLETIN

### FORSCH SPRAY URETHANE SYSTEM

### 90 SHORE A

#### DESCRIPTION

**URS 2790** is a ambient temperature curing three component, polyurethane coating designed for abrasion and corrosion resistance in numerous and varied environments. Many acid, caustic and salt water corrosion problems can be controlled by **URS 2790's** unique combination of properties. **URS 2790's** low coefficient of friction make it an excellent material in wet or freezing applications where release properties are a necessity. This system is readily suited for slurry operations and environments where particles size is minus .125 inch. **URS 2790** can be applied with ordinary airless equipment up .250 dry film thickness.

#### LIQUID

<u>PROPERTIES</u>	<u>ISO 180A</u>	<u>AMN 190B</u>	<u>AMN 6000B</u>	<u>MIXED</u>
Appearance	Clear / Lt. Amber	Blue	Dark Amber Liquid	Blue
Weight per Gallon	8.38 lbs	7.75 lbs	8.40 - 8.60	8.07 lbs
Volume Solid	99.2 %	19.1 %	100 %	55.7 %
Viscosity 75 Deg F.	22,600 cps	6,800 cps	200 - 400	2,000 cps
Flash Point, Tag OC	N/A	23 Deg F.	N/A	23 Deg F.

#### PHYSICAL PROPERTIES

Hardness	(ASTM D2240 - 68 ) Shore A	92
Tensile Strength`	(ASTM D412 - 68 Die B) psi	3,500
Elongation	(ASTM D412 - 68 Die B) %	600
Tear Strength	(ASTM D624 - 54 Die C)	400
Tear Strength	(ASTM D470 - Split Tear)	74
Abrasion Resistance - Taber Index *		
H - 18 Wheels & 1,000 gm weights		30
Operating Temperature (continuous service )		
Dry	Minus 40 Deg F to +180 Deg F. **	
Wet	up to + 140 Deg F. **	

\* Taber index: Milligrams of weight lost / 1,000 wear cycles

\*\* Consult Forsch for application in excess of these temperatures.

## URS 2790 CONT:

Page 2

### MIXING INSTRUCTIONS

Add entire contents of AMN 6000B to AMN 190B container and mix thoroughly! After which the mix ratio of ISO 180A to the AMN blend is 1 to 1 by volume. **URS 2790** will not cure properly if mix ratio is not accurate. Mix the two components for three minutes with a power mixer equipped with a propeller type blade. Scrape the mixing containers sides and bottoms with a straight edge tool to blend any unmixed material. Re-mix for two minutes. Note: The polymer must be clear and fluid when used. The "A" component of **URS 2790** may crystallize when exposed to temperatures below 30 Deg F. The polymer will not be harmed but should be warmed to 70 Deg. F. (100 Deg F. Maximum) until completely melted. Cool at room temperature before using.

### POT LIFE

Pot life of **URS 2790** at 70 Deg F. is 1.5 hours. Pot life varies with temperatures decreasing to 50 minutes at 90 Deg F. and increases to 3 hours at 50 Deg F.

### APPLYING

Airless techniques and equipment can be used to apply **URS 2790**. However the airless equipment must not contain aluminum parts or components. **Note** : **URS 2790** has an extremely high application rate, it is possible to induce waves or runs in a coated surface by excessive spraying pressure or by holding the gun too close to the object being sprayed. Tip distance and spray pressure should be adjusted as conditions dictate.

### MULTIPLE COATS

**URS 2790** can be applied in multiple coats to attain up to 1/4 inch thickness. A 60 to 90 Deg F. environment should be used for coating and curing. Between coats allow a minimum of 20 minutes and a maximum of 4 hours drying time. When coating a vertical surface, it is necessary to apply a very thin "tack" or mist coat to prevent slumping of subsequent coats. About 15 to 20 minutes should be allowed before applying the first full thickness coat. Wait until the first coat "tacks" then successive coats may be applied to the thickness of 20 to 100 mils depending on the article being sprayed, the position of the article being sprayed, temperature and the elapsed time into the pot life.

**URS 2790** is extremely chemical resistant to most organic and inorganic solutions/slurries within the PH 2 to 12 range. Resistance to most lubricants, oil, grease and detergents is excellent. Generally solvent resistance is not satisfactory. Chemical resistance of selected chemicals is shown below. If chemical resistance for a stated application is in question, the user can run their own test or contact FORSCH for suggestions.

Ammonia	VG	Nitric Acid	U
Hydrochloric Acid	U	Phosphoric Acid	VG
Sulfuric Acid 20%	VG	Propylene Glycol	F
Sodium Hydroxide 10%	VG	MEK	U
Methanol	U	Kerosene	U
Mineral Spirits	F	Toluene	U

VG = Very Good

F = Fair

U = Unsatisfactory

This product is warranted to be of uniform quality within manufacturing tolerances. Since no control is exercised over its use, no warranty, expressed or implied, is made as to the effects of such use. The obligation herein shall be limited to refunding the purchase price of that portion of the material proven to be defective.

# FORSCH POLYMER CORP.

## TECHNICAL DATA BULLETIN

### URS 2790 Cont:

Page 3

### COVERAGE

URS 2790 ordinary coverage is 900 dry mill square feet per mixed gallon of material. Use the following formula to determine quantity needed for a particular application.

$$\text{Gallons: } \frac{(\text{area to be covered sq. ft.}) \times (\text{dry mill thickness})}{900}$$

Adjust material requirements by estimating overspray and waste.

### CURE RATES

URS 2790 cure rate for 125 mils depends on temperature as indicated:

	<u>Days required</u>		
<u>Cure</u>	<u>60 Deg. F.</u>	<u>75 Deg. F</u>	<u>90 Deg F.</u>
80	4	1 1/2	1
100	8	2	2

Cure time will double for coatings nearing 250 mils

### APPLICATION INSTRUCTIONS

Surface Preparation: All surfaces should be clean and completely dry. Aluminum, wood, concrete, brick, fiberglass, rubber, steel and galvanized and coated surfaces. Proper adhesives should be used with all substrates. Metal surfaces should be sandblasted per SSPCV-SP 5-63 "White Metal Blast Cleaning" A 4 mil profile is desirable. First apply a thin coat of FORSCH ADH1001, wait around 15 minutes at 70 Deg F. then apply **URS 2790**.

### RE-COAT PROCEDURE FOR FORSCH 2790

If it is not possible to re-coat the surface within 4 hours an application of Forsch ADH 1002 adhesive in conjunction with buffing, may be required to ensure adequate innercoat adhesion.

## **URS 2790 Cont:**

Page 4

### **CLEAN UP, STORAGE AND DISPOSAL**

Equipment Cleaning: Spray pumps should be cleaned with methyl ethyl ketone after each application to prevent material build up inside the unit. Using methyl ethyl ketone flush out all urethane remaining in the spray unit until solvent stream is clear. Pump in methyl ethyl ketone until all the prior cleaning solvent is removed from the system. Place the gun in the pail and circulate for 10 minutes. Allow methyl ethyl ketone to remain in unit overnight.

### **SHELF LIFE**

URS 2790, when stored at 70 Deg F. in its original unopened containers is guaranteed for a period of 6 months. Long term storage temperatures should not exceed 80 Deg. F.

### **STORAGE**

Systems should be stored unopened in air tight containers at 60-90 degrees F. Partially emptied containers should be swept free of atmospheric moisture with dry nitrogen before sealing.

### **HANDLING PRECAUTIONS**

For complete and updated health and safety information, read the MATERIAL SAFETY DATA SHEETS. Do not handle or use until the MATERIAL SAFETY DATA SHEET has been read and understood.

This product is warranted to be of uniform quality within manufacturing tolerances. Since no control is exercised over its use, no warranty, expressed or implied, is made as to the effects of such use. The obligation herein shall be limited to refunding the purchase price of that portion of the material proven to be defective.