

## AP 400 (CL) Concrete Lifting System

### DIVISION 7: Thermal & Moisture Protection

#### Product Description:

AP 400(CL) is a two component, water blown, all PMDI based medium density spray injection polyurethane foam system designed for concrete jacking and leveling, soil stabilization and void filling. AP 400 (CL) is dispensed using 1/1 by volume ratio equipment.

#### Product Uses:

- Concrete Roadways
- Runways
- Pool Decks
- Patios
- Basement Slabs
- Highways
- Sidewalks & Walkways
- Driveways
- Parking Areas
- Pool Decks

#### Physical Properties:

Property	Test Method	Value
Density	ASTM D-1622	4.0 – 4.4 lbs./ft <sup>3</sup>
Compressive Strength	ASTM 1621	>90 psi
Curing Rate	N/A	90% Compressive Strength within 15 minutes.
Tensile Strength	ASTM 1623	97 psi
Shear Strength	ASTM C273	50 psi
Water Absorption	ASTM D570	<0.02%
Dimensional Stability	ASTM 2126	1.13% @ 180°F Dry -0.60% @ 158°F 100% RH -0.32% @ -20°F Dry
Volume Change		<4%
Closed Cell Content	ASTM D1940	>90%

*\*These values are typical; however, values can vary and should not be considered part of the product specifications.*

AP 400 (CL) has been uniquely designed for concrete lifting, void filling, geo-stabilization applications. This material is hydrophobic in nature and will not adversely react in the presence of water.

#### Liquid Component Properties:

Property	AP ISO A-side ISO	AP 400 (CL) B-side Resin
Color	Brown	Clear
Volumetric Mixing Ratio	1:1	54.47:45.52
Viscosity	180 – 220 cps	700 - 800 cps @ 77°F
Specific Gravity	1.23 g/mL	1.01 – 1.02 g/mL

Viscosity is dependent on the temperature of the material. The relationship between viscosity and temperature is inversely related. As the temperature of the resin increases, the viscosity decreases. With increased temperature, the reactivity profile shall also increase.

Reactivity may be adjusted depending on the application needs by increasing or decreasing the temperature of the resin and iso.

AP 400 (CL) resin does not contain any volatile blowing agents. Therefore, it can be heated and recirculated to attain optimal processing parameters. This may also be used in steel or plastic drums and totes.

### Recommended Processing Parameters:

	AP 400 (CL)
Primary A-side Heater	85 - 140°F
Primary B-side Heater	100 - 130°F
Hose Temperature	100 - 130°F
Processing Pressure	1,000 psi
Ground Temperature	>50°F

*\*It is strongly recommended that test sprays be conducted before installation for use in extreme temperatures.*

The process of concrete lifting and soil stabilization is subject to considerable variation, influenced by factors such as ground temperature, soil moisture content, equipment, and more. Throughout the procedure, the applicator is required to consistently observe and monitor the movement of the slab, ensuring the desired lift height is achieved. It solely falls upon the applicator to diligently carry out the process and apply the product according to the specified requirements.

### Storage and Shelf Life:

Property	AP ISO A-side ISO	AP 400 (CL) B-side Resin
Storage Temperature	50 - 105°F	50 - 105°F
Shelf Life	12 months / 1 year	12 months

### Reactivity Profile:

Mix Time	10 seconds
Pour Time	10 seconds
Cream Time	20 seconds
String Gel Time	62 seconds
Tack Free Time	69 seconds
Rise Time	91 seconds
Hand mixed using a lightening mixer at 3,000 RPM for 12 seconds, liquid components at 73°F.	

## General Requirements:

Equipment must be capable of delivering the proper 1:1 Ratio by volume of polymeric isocyanate (A-side Component) and Resin (B-Side Component) at adequate temperatures and injection pressures.

AP 400 (CL) has a maximum thickness per lift of 5 inches.

AP 400 (CL) should not be used when the continuous service temperature of the substrate or foam is below -40°F or above 180°F.

Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of thermal and acoustical fiberglass insulation listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the sales office nearest you for current information. For more information on other Alpha Polymers insulation and systems, visit [www.alphapolymersllc.com](http://www.alphapolymersllc.com) or call (806) 683-9071.