

# LetterClear **Clear structural Adhesive**

LetterClear is a two-part adhesive system specially designed to bond Acrylic, Polycarbonate and other plastic surfaces to itself and metals.

This adhesive is an easy to use 10:1 ratio that maintains its strength over a wide temperature range with excellent humidity and water resistance.

- ❖ Ideal Adhesive for Channel letters assembly
- ❖ Structurally bonds Plastic & Metal Surfaces
- ❖ Excellent UV resistance

## Liquid Properties

	<b>Resin</b>	<b>Activator</b>
Appearance:	Clear	Clear
Viscosity (cps):	75 – 100,000	25 - 30,000
Mix Ratio (by Volume)	10	1
<b><u>Cured Adhesive</u></b>		
Working Time:	6 – 9 minutes	
Handling Time:	14 – 18 minutes	
Full Cure Time:	24 hours	
Hardness:	50 – 60 Shore D	
Modulus @ 1% Strain:	81,000 – 86,000 psi	
Elongation:	5 – 10 %	
Service Temperature:	-48 to 121 °C	

## **Over-Lap Shear Strength (ASTM D1002):**

<b>Substrates</b>	<b>Shear Strength &amp; Mode of Failure</b>
Plexiglass to Plexiglass	➤ 1,275 psi Substrate Failure
Polycarbonate to Polycarbonate	➤ 1,150 psi Substrate Failure
ABS to ABS	➤ 1,375 psi Substrate Failure
ABS to Aluminum	➤ 1,450 psi Substrate Failure
Acrylic to Aluminum	➤ 1,050 psi Substrate Failure
Polycarbonate to Aluminum	➤ 1,150 psi Substrate Failure

## **Handling & Application**

### **Preparation:**

Bonding surfaces should be clean, dry and free of contamination. Minimal surface preparation is required for this type of adhesive system and superior bonds can be formed on most surfaces.

### **Mixing:**

It is highly recommended that adhesive be dispensed through a static mixer for proper mixing. Once out of mixer, adhesive should achieve a uniform color. Heat builds up during and after mixing is normal.

### **Application:**

Dispense enough material to completely fill the joint when parts are clamped. To assure the highest bond strength, surfaces must be mated within the adhesive's working time.

### **Curing:**

Parts should remain undisturbed during the interval of time between the material's working time and fixture time. After the curing time is achieved, the material has reached enough strength to handle the parts.

Temperature below 12,7 °C will slow the cure; above 29,4 °C will accelerate cure speed. To accelerate cure time, heat to 48,8 - 60°F for 15 minutes. At 25°C, adhesive sets in 2 – 3 hours and fully cures in 24 hours.

**Cleanup:**

It is recommended to clean up excess adhesive from the work area and application equipment before adhesive cures. Use appropriate cleaning solvent compliant with VOC regulations in your area. Keep containers tightly closed after use. Remove static mixer after use and seal the hole with cap.

**Storage:**

This adhesive should be stored in a cool dry place with adequate ventilation away from heat, sparks and flames.

The shelf life of this 2 part adhesive system is 12 months when stored at 4-25 °C. Exposure above room temperature will reduce the shelf life.

**Precautions:**

This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the material.

**Warranty:**

All products purchased from or supplied by PAI are subject to the terms and conditions set out in the contract. PAI warrants only that its product will meet those specifications designated as such herein or in other publications. All other information supplied by PAI is considered accurate but are furnished upon the express condition the customer shall make its own

assessment to determine the product's suitability for a particular purpose. PAI makes no other warranty, either express or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or product will not infringe any patent.

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