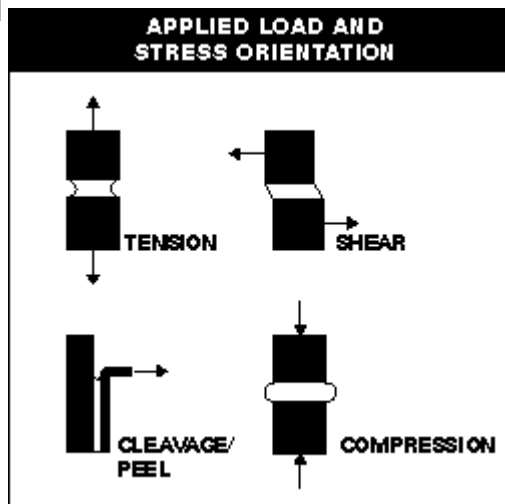


## Part Design & Assembly Adhesives

### Chemical Methods

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Chemical methods of assembly include the use of adhesives, adhesive tape or cements. These methods are readily used for attaching awkwardly shaped or fragile materials. Adhesives are also frequently used for leak proof assembly of dissimilar materials. The strength of chemical bonds is limited by the tensile strength of the bonding agent or its degree of adhesion to the substrate. Chemical methods may require longer cycle times and part fixturing as the adhesive or cement cures. Solvent cements may be used in select cases, usually with like materials, to provide a strong leak proof bond.



Plexiglas® acrylic plastic is a combustible thermoplastic. Observe fire precautions appropriate for comparable forms of wood and paper. For building uses, check code approvals. Impact resistance is a factor of thickness. Avoid exposure to heat or aromatic solvents. Clean with soap and water. Avoid abrasives.

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Plexiglas acrylic resins are compatible with a wide variety of commonly used adhesives providing versatility of use with other polymers for optimized part design.

Methylene dichloride has proven to be an effective solvent for bonding Plexiglas acrylic resins.

ADHESIVE COMPATIBILITY					
		ADHESIVE TYPE			
		POLYESTER	EPOXY	CYANOACRYLATES	NITRILE-PHENOLICS
POLYMER	PLEXIGLAS ACRYLIC	■	■	■	■
	ABS	■	■	■	■
	POLYCARBONATE	■	■	■	▲
	POLYSTYRENE	▲	▲	▲	▲

■ RECOMMENDED  
 ▲ NOT RECOMMENDED

The strength of a chemical bond is dependent on the material and bonding agent used, the joint design and the orientation of the applied load. Bond strength is maximized when compatible materials are loaded in compression or shear evenly distributed over the maximum possible area. Cleavage and peel stresses should be avoided when possible.

JOINT DESIGN	
TYPE	STRENGTH
	POOR
<b>BUTT</b>	
	GOOD
<b>LAP</b>	
	VERY GOOD
<b>SCARF</b>	
	EXCELLENT
<b>TAPERED LAP</b>	



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