



# Optically Clear Laminating Adhesive 8142

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## Product Data Sheet

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Updated : July 2000  
Supersedes : April 1998

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**Product Description**      Optically clear laminating adhesive for bonding smooth or textured transparent substrates.

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**Physical Properties**  
Not for specification purposes

<b>Release Liners</b>	2.0 thou (50 micron) Clear Polyester
<b>Adhesive</b>	2.0 thou (50 micron) 2000MP Acrylic
<b>Carrier</b>	None
<b>Shelf Life</b>	24 months from date of manufacture by 3M if stored at room temperature condition in cool, dry and sun protected room.

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**Features:**

- Clean room coating process eliminates common adhesive defects (e.g., no bubbles, dirt or gels).
- 99+% light transmission (when corrected for reflection losses) and haze level under 0.3% for crystal clear transparency
- High temperature, humidity and UV light resistance for long-term durable applications.
- Two polyester film liners for optimum adhesive smoothness and release characteristics.
- Wound on plastic cores to minimise potential lamination defects.
- Pressure-sensitive adhesive for manufacturing simplicity and economics.
- Isotropic adhesive, without a film carrier, will not cause birefringence.

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**Applications**

- Touch screens - for bonding film & glass laminates.
- Transparent graphic overlays.
- Optical management films.

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**Adhesion Properties**  
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<b>Peel Adhesion (90° Peel, 305mm/min, 50 micron polyester to various surfaces)</b>			
	<b>Initial 20 minute dwell N/10mm</b>	<b>72 hour Room Temp. N/10mm</b>	<b>Ultimate Bond 72 hour dwell at 158°F</b>
<b>Glass</b>	4.2	3.1	5.4
<b>Polycarbonate</b>	5.6	6.5	5.3
<b>Acrylic</b>	6.1	6.9	6.7

**Environmental Performance**

The properties defined are based on the attachment of impervious faceplate materials (such as aluminium) to a stainless steel test surface.

<b>Bond Build Up</b>	The bond strength of #2000MP High-performance Acrylic Adhesive increases as a function of time, temperature and humidity.
<b>Temperature/Humidity Cycling</b>	Polyester and glass lamination completes ten 24-hour cycles of modified Mil. Std. 202F, Method 106F (23°C-65°C, 95% R.H.) with no visual defects (i.e., bubbles, delamination, blistering, etc.)

**Processing**

Laminating -  
 Recommended nip roll or roller platen press type laminator to maintain optical aesthetics when laminated. Hand lamination not advised. Use best process control standards possible to control variables. (See **3M Laminating Technical Bulletin** for additional information.)

Die cutting -  
 Use high precision, tight tolerance tooling designed to cleanly cut film and pressure-sensitive adhesive.

**Application Techniques**

For maximum bond strength the surface should be thoroughly cleaned and dried. To obtain greatest benefit, laminations should be done in the cleanest environment possible with static charge elimination.

Bond strength can be improved with firm application pressure and moderate heat causing the adhesive to develop intimate contact with the bonding surface.

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Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.



**Tapes & Adhesives Group**

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