

# 3M™ Optically Clear Adhesive 8173D

## Product Description

### 3M™ Optically Clear Adhesive:

**8173D** 3.0 mils (75 microns) double coated optically clear laminating adhesive for bonding smooth, transparent substrates.

## Construction

Products	3M™ Optically Clear Adhesive 8173D
<b>Adhesive Type:</b>	Acrylic
<b>Adhesive Carrier:</b>	1.0 mil Optically Clear Polyester
<b>Approximate Thickness:</b>	
<b>Release Liner</b>	2.0 mils (50 microns) Polyester
<b>Adhesive</b>	1.0 mil (25 microns)
<b>Carrier</b>	1.0 mil (25 microns) Polyester
<b>Adhesive</b>	1.0 mil (25 microns)
<b>Release Liner</b>	2.0 mils (50 microns) Polyester

## Typical Physical Properties and Performance Characteristics

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

### Refractive Index:

(± 0.0005 measured for Sodium D line @ 25°C)

3M™ Optically Clear Adhesive 8173D
1.4741

### Haze:

Haze was measured according to ASTM D1003-92.

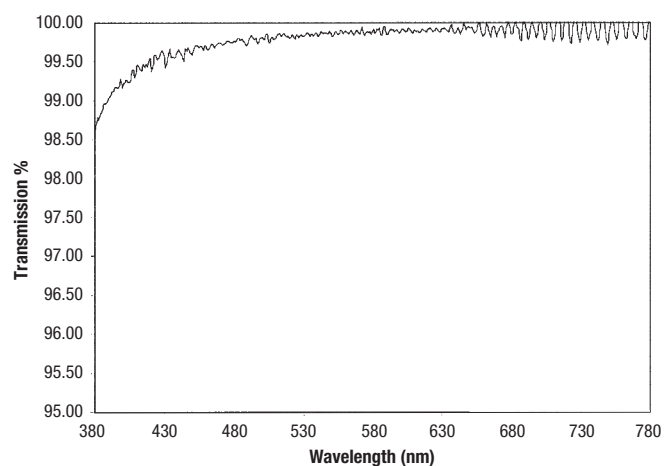
3M™ Optically Clear Adhesive 8173D
1.0%

### Transmission:

ASTM E903, D1003, and E284

Reflective-Corrected Total Luminous Transmission vs. Wavelength

### 3M™ Optically Clear Adhesive 8173D



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## Typical Physical Properties and Performance Characteristics (continued)

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

### Peel Adhesion:

ASTM D3330 modified, 180 degree peel, 12 in./min. 305 mm/min. 2.0 mil polyester to various surfaces.

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	Substrate	
Initial (20 minute dwell)	Glass	41 oz/in (45 N/100mm)
	Acrylic	36 oz/in (39 N/100mm)
	Polycarbonate	42 oz/in (46 N/100mm)
	Stainless Steel	43 oz/in (47 N/100mm)
72 Hour Room Temperature	Glass	47 oz/in (51 N/100mm)
	Acrylic	45 oz/in (51 N/100mm)
	Polycarbonate	51 oz/in (56 N/100mm)
	Stainless Steel	59 oz/in (65 N/100mm)

### Shear Adhesion:

ASTM D-3654 Procedure H  
1/2" x 1" Overlap, minutes to failure.

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Heat Aged (70°C) 500g, stainless steel	>10,000

### Color:

ASTM – E1164-07 / CIELAB  
(BYK Gardner TCS Plus spectrophotometer, model 8870)

3M™ Optically Clear Adhesive 8173D	
	L* = 96.76
	a* = -0.06
	b* = 0.43

## Available Sizes

Available Lengths (subject to minimum order requirements):	
Maximum length - 3M™ Optically Clear Adhesive 8173D	180 yards or 540 feet
Available Widths (subject to minimum order requirements):	
Maximum width - 3M™ Optically Clear Adhesive 8173D	26 inches
Normal Slitting Tolerance	± 1/32 in. (0.8 mm)
Core Size	3.0 in. (76.2 mm)

## Application Techniques

For maximum bond strength the surface should be thoroughly cleaned and dried. To obtain greatest benefit, laminations should be done in a class 10,000 cleanroom or better and using equipment 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. Maximum bond strength is achieved after 72 hours of dwell time.

## Application Ideas

- Touchscreens- for bonding film and glass laminates.
- Transparent graphic overlays.
- Projection screens.
- Avionics/military displays.
- Optical management films for LCD.

### 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.

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## Certification/Recognition

**MSDS:** 3M has not prepared a MSDS for this product which is not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, the product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.

**TSCA:** This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements.

**RoHS:** This product complies with the requirements of EU Directive 2002/95/EC and 2005/618/EC.

## For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M Electronics Markets Materials Division, Building 21-1W-10, 900 Bush Avenue, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923.

In Canada, phone: 1-800-364-3577.

In Puerto Rico, phone: 1-787-750-3000.

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