

3M™ Optically Clear Adhesive

8142KCL

Product Description

3M™ Optically Clear Adhesive 8142KCL is for general purpose applications including display touch applications where very good adhesion and ITO compatibility is required.

Construction

Product	3M 8142KCL
Adhesive Type:	Acrylic
Adhesive Carrier:	None
Approximate Thickness:	
Release Liner:	75 µm (3.0 mil) Clear Polyester
Adhesive:	50 µm (2.0 mil)
Release Liner:	75 µm (3.0 mil) Clear Polyester



The 3M family of optically clear adhesives for electronic displays are usually available in two forms. 3M OCA come in roll good form. 3M Contrast Enhancement Films (CEF) are available in die-cut form.

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 8142KCL
1.4735

Haze:

Haze was measured according to ASTM D1003

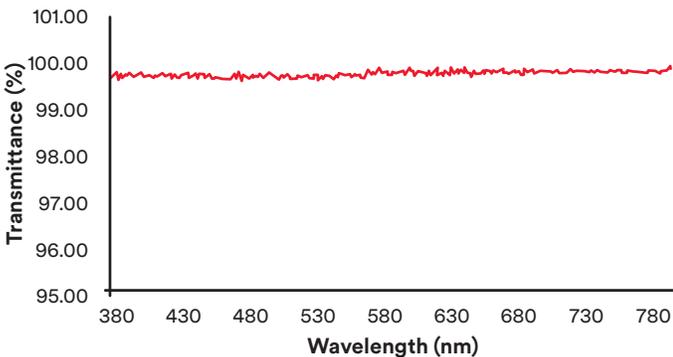
3M 8142KCL
0.1%

Transmission:

ASTM E903, D1003, and E284

Reflective-Corrected Total Luminous Transmittance vs Wavelength

3M™ Optically Clear Adhesive 8142KCL



Peel Adhesion:

ASTM D3330 modified, 90 degree peel, 12 in./min. (305 mm/min) 1 mil polyester backing.

	Substrate	3M 8142KCL
Initial (20 minute dwell)	PMMA	67 N/100mm (61 oz/in)
	Glass	39 N/100mm (36 oz/in)

Shear Adhesion:

ASTM D-3654

1/2" x 1" Overlap, minutes to failure.

3M 8142KCL	
Heat Aged 1000 gram, stainless steel	>10,000

Shelf Life:

Product retains its performance and properties for two years from date of manufacture if properly stored at room temperature conditions of 72°F (22°C) and 50% relative humidity. Storage in a plastic bag is recommended.

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.

General Information

- Light transmission >99% when corrected for reflection losses.
- Free of birefringence with no film carrier.
- High temperature, humidity and UV resistance.
- Long term durability without yellowing, delaminating or degrading.
- High cohesive and peel strength for reliably bonding most transparent substrates.
- 3M™ Optically Clear Adhesive is coated and converted in a clean room.
- 3M optically clear adhesives are inspected to reduce the occurrence of bubbles, dirt, gels and other optical distortions.
- Wound on plastic cores and wrapped in plastic to eliminate paper fiber contamination.
- Two film liners for optimum adhesive smoothness and differential release for ease of processing and protection from contamination.

Application Ideas

- Touchscreens for bonding film and glass laminate.
- 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.

Certification/Recognition

MSDS: 3M has prepared an MSDS for this product, although it 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 Complaint/REACH Compliant: This product complies with the European Union's "Restriction of Hazardous Substances" (RoHs) initiative and with European REACH regulations 2002/95/EC and 2005/618/EC.

Important Notice

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For Additional Information

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