

3M™ Optically Clear Adhesive

OCA 817X Series

- High durability in reliability testing on PC/PMMA

Product Description

3M™ Optically Clear Adhesive 817X is an optically clear laminating adhesive for bonding smooth, transparent substrates. 3M OCA 817X has shown good durability when bonding to plastic substrates. No UV curing required.



Construction

Product	3M OCA 8171CL	3M OCA 8172CL
Adhesive Type:	Acrylic (Acid Containing)	Acrylic (Acid Containing)
Adhesive Carrier:	None	None
Approximate Thickness:		
Release Liner:	50 um (2.0 mils) Clear Polyester	50 um (2.0 mils) Clear Polyester
Adhesive:	25 um (1.0 mil)	50 um (2.0 mils)
Release Liner:	50 um (2.0 mils) Clear Polyester	50 um (2.0 mils) Clear 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.

Durability Performance to Environmental Conditions:

The following environmental tests were conducted in the 3M laboratory under the conditions specified without any appreciable deterioration in visible appearance (no bubbles, delamination, whitening, etc.).

Construction	Condition	Duration
LCD Glass/8172CL/PC (1 mm)	65°C/90%RH	800 hours
LCD Glass/8172CL/PMMA (1 mm)	65°C/90%RH	800 hours
LCD Glass/8172CL/PET (2 mil)	65°C/90%RH	800 hours

Peel Adhesion:

ASTM D3330 modified, 180 degree peel from glass, 1 cm wide peel strips, 12 in/min (305 mm/min), 2.0 mil polyester backing

	Float Glass		PC		PMMA	
	20 min dwell at 23°C/50%RH	3 days dwell at 23°C/50%RH	20 min dwell at 23°C/50%RH	3 days dwell at 23°C/50%RH	20 min dwell at 23°C/50%RH	3 days dwell at 23°C/50%RH
Units	N/cm	N/cm	N/cm	N/cm	N/cm	N/cm
3M OCA 8171CL	6.0	6.4	3.0	5.2	3.7	5.3
3M OCA 8172CL	6.6	6.8	3.8	5.8	4.3	5.4

Color:

Ultra Scan Pro (Hunter Lab) ASTM E308, D65/10°
3M OCA 817X on LCD glass

3M OCA 8171CL	3M OCA 8172CL
L* = 96.6	L* = 96.8
a* = -0.01	a* = -0.01
b* = 0.18	b* = 0.20

Refractive Index:

(+ 0.0005 Metricon measurements)

3M OCA 3M OCA 817X		
405 nm	532 nm	633 nm
1.4876	1.4757	1.4712

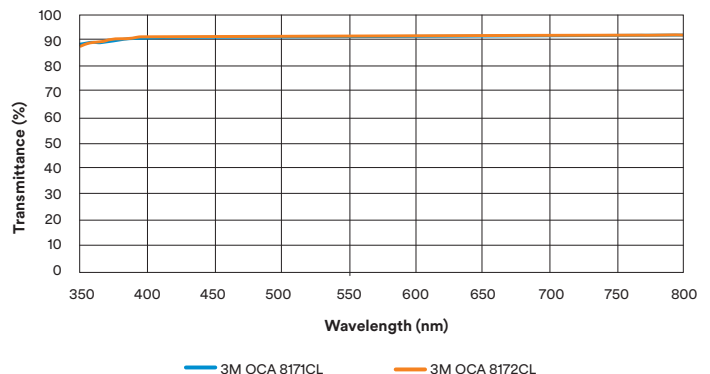
Haze:

Haze is measured according to ASTM D1003-92,
3M OCA 817X on LCD glass

3M OCA 8171CL	3M OCA 8172CL
0.2%	0.3%

Transmission Curve:

Uncorrected Transmission vs. Wavelength for
3M™ OCA 817X on Glass



Typical Electrical Properties at Room Temperature:

ASTM-D150-92

Dielectric Constant:

3M OCA 817X	
Frequency (KHz)	Dielectric Constant
100	3.42
500	3.20

Suggested Lamination Process

Step 1: Remove secondary liner, and then laminate 3M OCA 817X to first adherent substrate by roller at room temperature

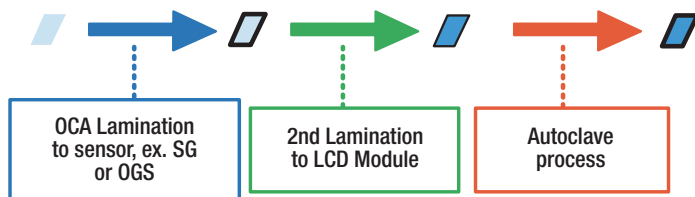
Recommendation: roller pressure 0.1 – 0.2 MPa, roller speed 0.5 – 1 m/min

Step 2: Remove primary liner, and then laminate 3M OCA 817X/first adherent to second adherent by vacuum lamination

Recommendation: Vacuum condition < 50 Pa, pressure around 0.1 – 0.2 MPa

Step 3: Autoclave process

Recommendation: 30-60°C/3-5kgf/cm²/20-30 min



Storage

- Store in original packaging or plastic bag
- Avoid applying pressure or resting objects on the product to prevent marking, denting, or deforming the surface



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- Wear gloves to prevent fingerprints or nail marks when handling
- Product should be unpacked and handled in a clean-room facility
- Store at room temperature conditions of 22 ± 8°C and 50 ± 20% relative humidity

Regulatory

For regulatory information about this product, please contact your 3M representative.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within the user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for user's method of application.

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