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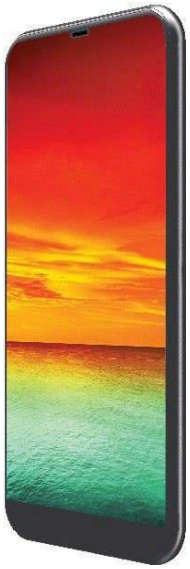
Technical Data | May 2026

3M™ Contrast Enhancement Film (CEF29XX Series)

- 3M film CEF2904
- 3M film CEF2906
- 3M film CEF2907
- 3M film CEF2908
- 3M film CEF2910



Product Description

3M™ Contrast Enhancement Film (CEF29XX Series) are specialized optically clear adhesives offering clarity and adhesion to various transparent display substrates. 3M film CEF29XX is designed for applications that require soft OCA for direct LCM bonding. 3M film CEF29XX does not require Ultraviolet (UV) curing.

Key Features

- Good conformability for non-UV process OCA

Product Construction

Product	3M™ film CEF2904	3M™ film CEF2906	3M™ film CEF2907	3M™ film CEF2908	3M™ film CEF2910
Adhesive Type:	Acrylic	Acrylic	Acrylic	Acrylic	Acrylic
Adhesive Carrier:	None	None	None	None	None
Approximate Thickness:					
Release Liner:	50 µm (2.0 mils) Clear Polyester	50 µm (2.0 mils) Clear Polyester	50 µm (2.0 mils) Clear Polyester	50 µm (2.0 mils) Clear Polyester	50 µm (2.0 mils) Clear Polyester
Adhesive:	100 µm (4.0 mils)	150 µm (6.0 mils)	175 µm (7.0 mils)	200 µm (8.0 mils)	250 µm (10.0 mils)
Release Liner:	75 µm (3.0 mils) Clear Polyester	75 µm (3.0 mils) Clear Polyester	75 µm (3.0 mils) Clear Polyester	75 µm (3.0 mils) Clear Polyester	75 µm (3.0 mils) 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.

3M™ Contrast Enhancement Film (CEF29XX Series)
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.

Environmental Testing:

The following environmental tests were conducted in the 3M laboratory under the conditions specified without any appreciable deterioration in visible appearance (no bubbles, delamination, etc.). Sample construction is optical glass/3M film CEF29XX/ optical glass.

	Condition	Duration
High Temperature	+85°C	1000 hours
Low Temperature	-40°C	1000 hours
High Temp/Humidity	+65°C/90%RH	1000 hours
Thermal Shock	-40°C and +85°C (0.5 hour dwell)	300 cycles

Peel Adhesion:

ASTM D3330 modified, 180 degree peel from float glass, 1cm wide peel strips, 12in/min (305 mm/min), 2.0 mil polyester backing, 3M film CEF29XX.

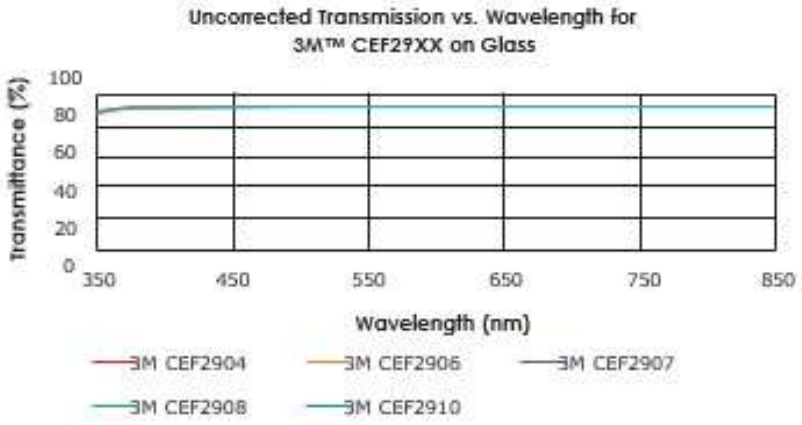
Peel Adhesion to Glass		
Dwell Time	20 min dwell at 23°C/50%RH	3 day dwell at 23°C/50%RH
Units	N/cm	N/cm
3M film CEF2904	11.7	12.1
3M film CEF2906	11.9	13.8
3M film CEF2907	12.0	14.8
3M film CEF2908	15.5	15.9
3M film CEF2910	16.6	17.0

Color:

Ultra Scan Pro (Hunter Lab), ASTM E308, D65/10° 3M film CEF29XX Series on optical glass.

3M™ film CEF28XX Series			
3M film CEF2904	L* = 96.9	a* = 0.00	b* = 0.17
3M film CEF2906	L* = 96.9	a* = -0.02	b* = 0.17
3M film CEF2907	L* = 96.9	a* = -0.02	b* = 0.19
3M film CEF2908	L* = 96.9	a* = -0.02	b* = 0.19
3M film CEF2910	L* = 96.9	a* = -0.02	b* = 0.19

3M™ Contrast Enhancement Film (CEF29XX Series) Transmission Curve:



Refractive Index:

(+ 0.0005 Metricon measurements from standard deviation of ellipsometry) 3M film CEF29XX Series.

3M™ film CEF29XX Series		
405 nm	532 nm	633 nm
1.4892	1.4772	1.4726

Haze:

Haze is measured according to ASTM D1003-92, 3M film CEF29XX on optical glass

3M™ film CEF29XX Series
0.1%

Typical Electrical Properties at Room Temperature:

ASTM-D150-92. 3M film CEF29XX Series

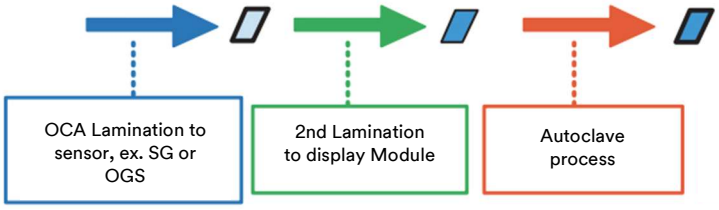
Dielectric Constant:

3M™ film CEF29XX Series	
Frequency (kHz)	**Dielectric Constant**
100	4.13
500	3.73

3M™ Contrast Enhancement Film (CEF29XX Series)

Suggested Lamination Process

Step 1: Remove secondary liner, and then laminate 3M film CEF29XX to first adherent substrate by roller at room temperature
Recommendation: roller pressure 0.1 – 0.2 MPa, roller speed 0.5 – 1m/min
Step 2: Remove primary liner, and then laminate 3M film CEF29XX/first adherent to second adherent by vacuum lamination (if rigid-to-rigid bonding)
Recommendation: Vacuum condition < 50 Pa, pressure around 0.1 – 0.2 MPa
Step 3: Autoclave process recommendation: 30-60°C/3-5kgf/cm^2/20-30min



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

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

3M™ Contrast Enhancement Film (CEF29XX Series)

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