

3M™ Anti-Sparkle Film (ASF19XX Series)

- 3M film ASF1908



Product Description

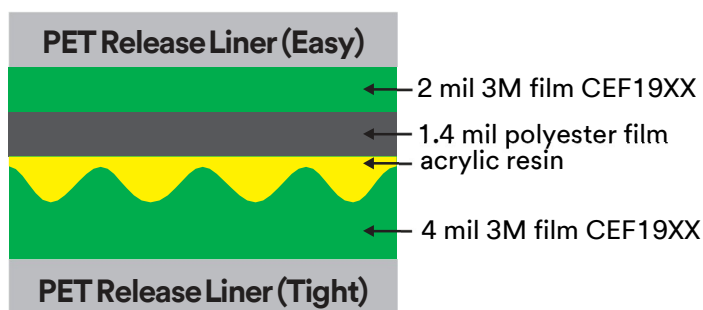
3M™ Anti-Sparkle Film (ASF19XX Series) are specialized optically clear adhesives offering visual clarity and adhesion to various transparent display substrates. 3M film ASF19XX is designed to reduce display sparkle in displays utilizing a wide range of anti-glare (AG) surfaces. The soft adhesive construction allows for compliance with direct display module bonding and is ITO compatible with high adhesion.

Key Features

- Low dielectric constant
- Anti-sparkle performance with anti-glare surfaces

Product Construction

Product	3M™ film ASF1908
Adhesive Type:	Acrylic
Adhesive Carrier:	None
Approximate Thickness:	
Release Liner:	50 µm (2.0 mils) Clear Polyester
Adhesive:	50 µm (2.0 mils)
PET/resin layer:	45 µm (1.9 mils)
Adhesive:	=100 µm (4.0 mils)
Release Liner:	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.

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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 ASF19XX/ display glass, cured at 3J/cm².

	Condition	Duration
High Temperature	+95°C	800 hours
Low Temperature	-40°C	800 hours
High Temp/Humidity-1	+65°C/90%RH	800 hours
High Temp/Humidity-2	+85°C/85%RH	800 hours
UV	0.55 W/m ² at 340 nm, Daylight filter	500 hours

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 ASF19XX, cured at 3J/cm².

Peel Adhesion to Glass		
Dwell Time	20 min dwell at 25°C/50%RH	3-day dwell at 25°C/50%RH
Units	N/cm	
3M film ASF1908	2 mil side = 9.88 4 mil side = 10.4	2 mil side = 10.8 4 mil side = 12.4

Color:

Ultra Scan Pro (Hunter Lab), ASTM E308, D65/10° 3M film ASF19XX on optical glass, uncured.

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Uncured	L* = 94.6	a* = 0.05	b* = 0.74
Cured	L* = 94.5	a* = 0.05	b* = 0.78

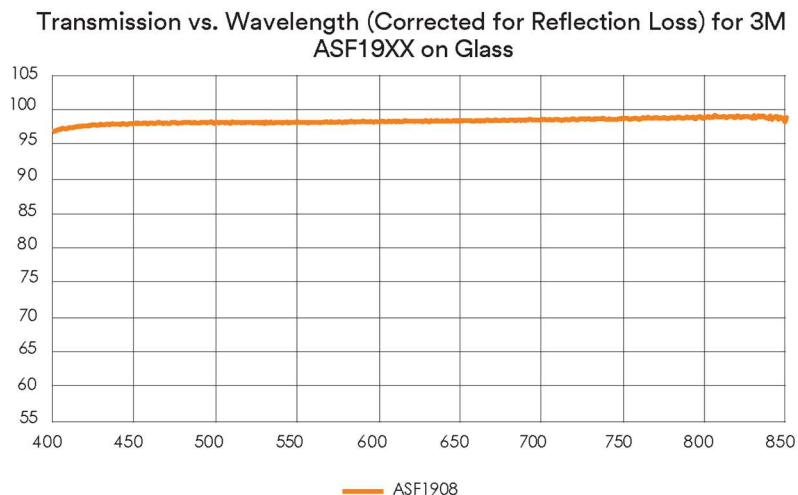
Refractive Index:

(+ 0.0005 Metricon measurements from standard deviation of ellipsometry) 3M film ASF19XX, uncured and cured at 3J/cm².

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Wavelength	405 nm	532 nm	633 nm
Uncured	1.4320	1.4610	1.4708
Cured	1.4329	1.4623	1.4718

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Transmission Curve:



Haze:

Haze is measured according to ASTM D1003-92, 3M film ASF19XX on optical glass

3M™ film ASF1908
72%

Typical Electrical Properties at Room Temperature:

ASTM-D150-92. 3M film ASF19XX, cured at 3J/cm².

Dielectric Constant:

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Frequency (kHz)	Dielectric Constant
100	2.86
500	2.77

Suggested Lamination Process

Step 1: Remove secondary liner, and then laminate 3M film ASF19XX to first adherent substrate by roller at room temperature

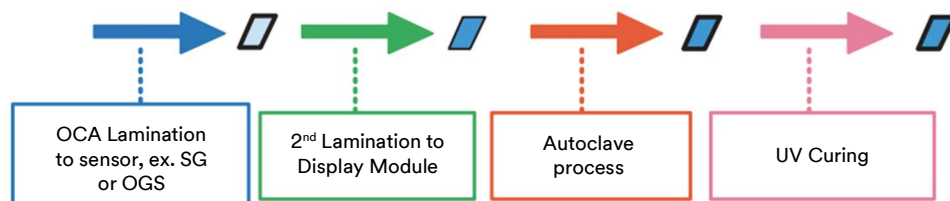
Recommendation: roller pressure 0.1 – 0.2 MPa, roller speed 0.5 – 1 m/min

Step 2: Remove primary liner, and then laminate 3M film ASF19XX/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/cm²/20-30min

Step 4: UV curing with minimum 3J/cm² dosage



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UV Cure Guidance

- UV range: 340-375nm (max absorption = 342nm)
- Minimum UV dosage and intensity: 1 J/cm², 10 mW/cm²
- Suggest using lower wavelengths of the UV-A spectra. Suitable UV sources would be Fusion D bulb and medium pressure Hg.
- LED sources, which output at longer UV-A wavelengths would be less ideal.

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.
- 3M film ASF19XX should be properly stored at room temperature conditions of 22 ± 2°C and 50 ± 20% relative humidity.

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

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