

3M™ Automotive Roll Optically Clear Adhesive

ARO 06N-XXX Series

- Easy converting general purpose adhesive
- High durability and bonding strength

Product Description

3M Automotive Roll OCA (ARO) films are specialized optically clear adhesives offering excellent clarity and adhesion to various transparent display substrates. 3M ARO 06N-XXX is recommended for general purpose non-touch applications that require high bonding strength. No UV curing is required.



Construction

Product	3M ARO 06N-025	3M ARO 06N-050	3M ARO 06N-075	3M ARO 06N-100
Adhesive Type:	Acrylic	Acrylic	Acrylic	Acrylic
Adhesive Carrier:	None	None	None	None
Approximate Thickness:				
Release Liner:	75 um (3.0 mils) Clear Polyester	75 um (3.0 mils) Clear Polyester	75 um (3.0 mils) Clear Polyester	75 um (3.0 mils) Clear Polyester
Adhesive:	25 um (1.0 mils)	50 um (2.0 mils)	75 um (3.0 mils)	100 um (4.0 mils)
Release Liner:	75 um (3.0 mils) Clear Polyester	75 um (3.0 mils) Clear Polyester	75 um (3.0 mils) Clear Polyester	75 um (3.0 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, haze <0.2%, b* <1). Sample construction is cover glass/3M ARO 06N-XXX/cover glass.

	Condition	Duration
High Temperature	+95°C	1000 hours
Low Temperature	-40°C	1000 hours
High Temp/Humidity-1	+65°C/90%RH	1000 hours
High Temp/Humidity-2	+85°C/85%RH	1000 hours
Thermal Shock	-40°C and +95°C (1 hour dwell, <1 min ramp time)	650 cycles
UV	.55 W/m ² at 340nm, Daylight filter	500 hours

Peel Adhesion:

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

ARO 06N-050	
	N/cm
20 min dwell at RT:	
Stainless Steel	6.3
Glass	6.5
Acrylic	4.5
Polycarbonate	4.6
72 hr dwell at RT:	
Stainless Steel	8.4
Glass	7.9
Acrylic	5.6
Polycarbonate	5.8

Color:

Ultra Scan Pro (Hunter Lab)
ASTM E308, D65/10°

3M ARO 06N-050	3M ARO 06N-100
L* = 97.1	L* = 97.1
a* = -0.02	a* = -0.05
b* = 0.15	b* = 0.18

Refractive Index:

3M ARO 06N-XXX

(+ 0.0005 Metricon measurements)

3M ARO 06N-XXX		
405 nm	532 nm	633 nm
1.4883	1.4763	1.4714

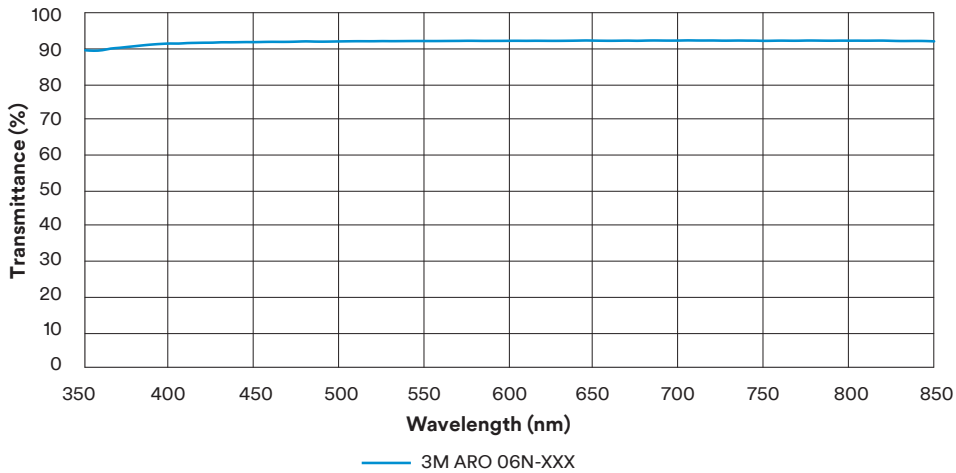
Haze:

Haze is measured according to ASTM D1003-92

3M ARO 06N-025	3M ARO 06N-050
0.1%	0.2%

Transmission Curve:

Transmission vs. Wavelength
for 3M ARO 06N-XXX on Glass



Suggested Lamination Process

Step 1: Remove secondary liner, and then laminate 3M ARO 06N-XXX to first adherent substrate by roller at room temperature

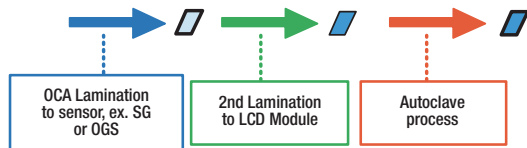
Recommendation: roller pressure 0.1 – 0.2 MPa, roller speed 0.5 – 1 m/min

Step 2: Remove primary liner, and then laminate 3M ARO 06N-XXX/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

- Avoid applying pressure of 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.
- Product must be protected from light exposure.
- Store in sealed, foil bag under -20°C to 30°C and less than 70% relative humidity. If removed from cold storage, ensure no condensation on packaging.

Regulatory

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



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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.

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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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