

3M Anti-Reflection Matte Removable Non-Conductive Protection Film (ARMR220 NC)

Technical Data Sheet

September, 2012

Description 3M™ ARMR220 NC Protection Film uses 3M's advanced coating technology to provide durable protection, reflection reduction for a clear image, with a residue-free, self-wetting adhesive for application on electronic displays.

Applications 3M ARMR220 NC Protection Film is typically used to provide display protection and viewing enhancement for electronic displays, especially in environments where bright light conditions can disrupt display readability.

The combination anti-reflection/anti-glare front surface enhances the viewing experience by reducing ambient light reflection on a display as well as diffusing mirror-like reflections. The film is near color-neutral and non-conductive, enabling application to today's touch panel technologies. By providing a durable hardcoat barrier between the display surface and the user or environment, this film helps protect against scratches and damage to the display. The residue-free adhesive technology gives an easy-to-apply and easy-to-remove application experience for the user.

Typical Properties

Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

Property	Typical Value	Test Method
Transmission	96%	ASTM D1003-11 ^{PL}
Haze	2.5%	ASTM D1003-11 ^{PL}
Clarity	80%	ASTM D1003-11 ^{PL}
Reflection	1.5%	ASTM E1164-09a
Gloss (20°, front surface only)	12	ASTM D523-08
Thickness	0.155 mm	ASTM D3652/D3652M-01
Steel Wool Abrasion	Light scratching, 25 g/cm ² , 10 rubs, #0000 steel wool	3M TM-095
Pencil Hardness	3H (500g)	ASTM D3363-05
Chemical resistance	Bleach, IPA, Window Cleaner, Motor Oil, Cola, Coffee, water insoluble marker, water	3M TM-118
Water contact angle (hydrophobic)	95 degrees	ASTM D7734-08
Hexadecane contact angle (oleophobic)	55 degrees	ASTM D7734-08

Environmental Conditioning	Visual Evaluation
Heat (85°C for 500 hours) Cold (-40°C for 500 hours) Humidity (60°C/90% RH for 500 hours) Thermal shock (85°C to -40°C for 1 hour each, 100 cycles)	No Significant change when observed with the unaided eye

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Product Features

- Durable hardcoat for display protection
- Near color-neutral, non-conductive anti-reflection surface treatment
- Anti-glare coating to reduce mirror-like reflections
- Low tack, easy to apply and remove adhesive
- Scotchgard™ easy-to-clean hydrophobic and oleophobic surface

Shelf Life & Storage (prior to application)

Material should be stored in its original packaging, laying in a horizontal orientation, away from direct sunlight. Heavy objects should not be placed on top of it to avoid damaging the product. Ambient temperature and humidity should be controlled to 10-30° C at 30-60% relative humidity.

Availability

For availability, please contact our customer service group at 1-800-553-9215 or visit our website at www.3m.com/displayenhancement

Important Notice

The following is made in lieu of all warranties, express or implied, including any implied warranties of merchantability or fitness for a particular purpose.

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The warranties and remedies set forth herein are purchaser's sole and exclusive warranties and remedies.

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