

3M ARMR220 NC Protection Film

Technical Data Sheet

January 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 (Test Method)	Typical Value US units (metric)
% Transmission	≥ 93%
Haze	≤ 3%
Clarity	≥ 75%
Reflection	≤ 1.5%
Nominal thickness (with adhesive)	6 mil (0.155 mm)
Steel Wool Abrasion	Light scratching, 25 g/cm ² , 10 rubs, #0000 steel wool
Pencil Hardness	≥ 3H
Water contact angle (hydrophobic)	≥ 95 degrees
Hexadecane contact angle (oleophobic)	≥ 55 degrees
Heat resistance	85 ⁰ C for 500 hours
Cold resistance	-40 ⁰ C for 500 hours
Humidity resistance	60 ⁰ C/90% RH for 500 hours
Thermal shock resistance	85 ⁰ C for 1 hour to -40 ⁰ C for 1 hour, 100 cycles
Chemical resistance	Bleach, IPA, Window cleaner, motor oil, cola, coffee, water insoluble marker, water

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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.

3M warrants that, at the time of shipment, product will meet 3M's published specification or that specification agreed in writing between 3M and purchaser. Should product not meet specifications at time of shipment, 3M will replace or refund the purchase price of such quantity of the product found not to meet specifications. Purchaser shall determine the suitability of the 3M Product for purchaser's application. **3M shall not be liable under any legal theory, including in contract or in tort, for any injury, loss, or damage, whether direct, indirect, incidental, special or consequential, arising out of the use of or the inability to use the product.**

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