

3M™ Display Surface Products

Display Protection

Display Enhancement

Display Privacy

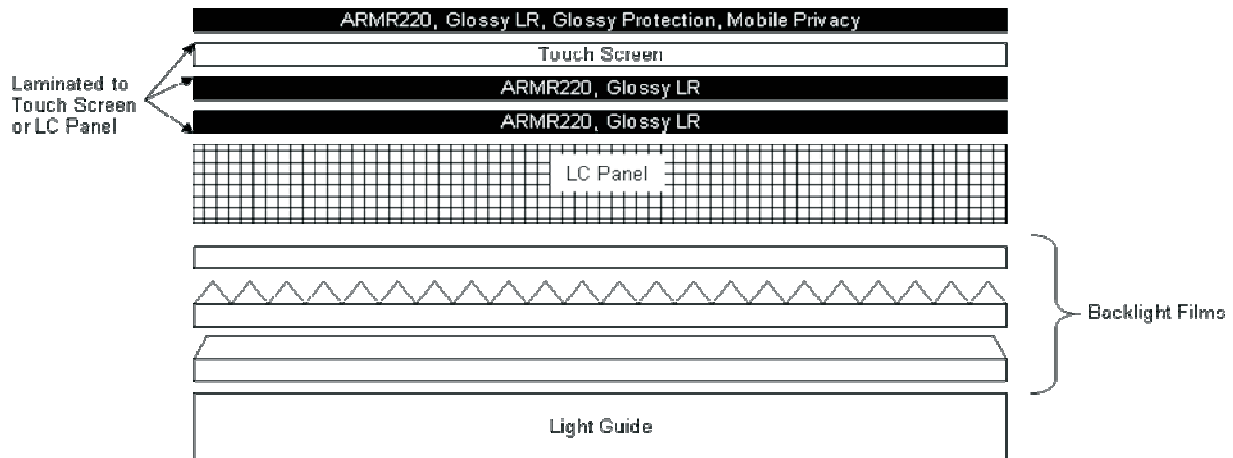
Description

3M™ Display Surface Products are a family of optically clear, durable protection, and privacy products. The products are designed to provide visual enhancement, increased durability and protection from damage, or privacy in a wide variety of applications. Multiple options are available for privacy, light management and protection, including microlouver films, anti-reflective anti-glare films, low reflection gloss films, anti-glare films, and durable glossy films. The films have a low tack, residue-free adhesive for easy application and removal. Products with the Scotchgard™ easy-to-clean layer helps make cleaning easier than ever.

3M Display Surface Products are appropriate for ruggedized mobile computers as well as consumer electronics including mobile phones, tablet PCs, personal data assistants, and mobile media devices. 3M Display Surface Products are robust enough to protect the underlying display, yet thin enough to minimize any effect on touch screen sensitivity.

Typical Applications

3M Display Surface Products can be utilized in several surfaces of the display. The most common location is as the outermost element of the display. This means the film would be laminated to the top of the display module, or to the front of a touch screen or digitizer if the device has one. However, with the anti-reflection films you could also achieve improved protection and reflection reduction by laminating the film to the back of a touch screen and/or the LCD surface as shown below.

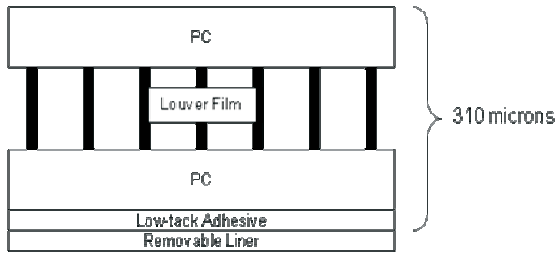


3M Display Surface Products are thin enough that they should not significantly affect the sensitivity of most touch screen technologies. However, there may be situations where 3M Display Surface Products should first be tested by lamination to the front of the touch screen. Customers are responsible for field testing on their device to determine effectiveness.

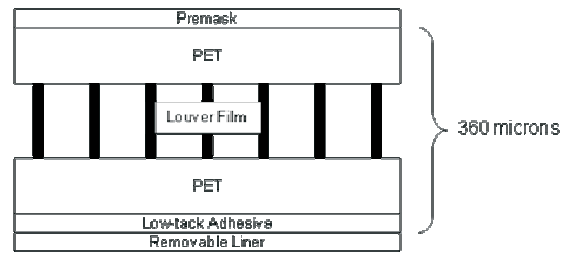
In order to maximize display enhancement, 3M Display Surface Products must be in intimate contact (optically coupled) with a display surface. This means that its adhesive layer must always be laminated to a surface, and not mounted as a free-floating film.

Product Constructions

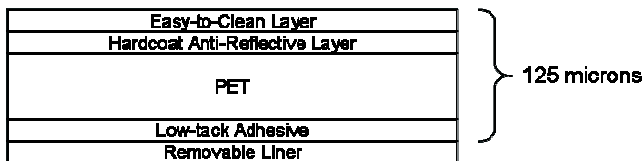
**Mobile Privacy Film
MPF4200 Gloss)**



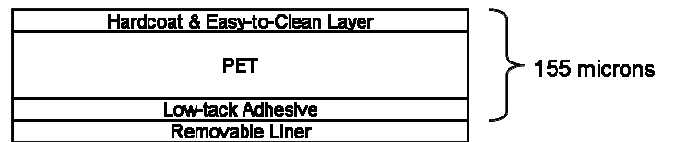
**Mobile Privacy Film
MPF400 (Matte)**



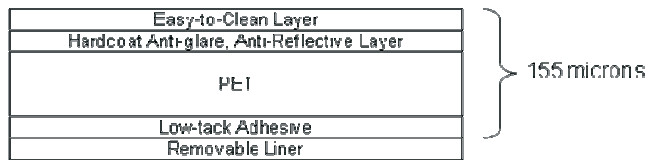
Glossy Low Reflection Film



Glossy Protection Film



ARMR220



General Converting, Assembly, and Handling Recommendations

During converting operations, both the front (if there is one) and rear protective liners should remain on the film.

Die cutting or high quality lasers are the recommended forms of converting and will result in the cleanest edges, although shear cutting may also be acceptable. Whatever method used, you should ensure that the part has clean, crisp edges without any raggedness or other damage. It is recommended that you die cut through the adhesive side liner to the film.

Remove protective liners by tacking near an edge or corner with a piece of aggressive tape and pulling gently.

It is recommended that a squeegee or roller be used to laminate the film to the surface. If a squeegee or roller is not used, allow the leading edge of the adhesive to wet out naturally and without assistance.

Bubbling sometimes occurs during hand lamination. Large bubbles can be pushed towards the edge and out from under the film, or can be eliminated by lifting the film and re-laminating. Small bubbles will diffuse through the adhesive and disappear after several hours dwell time (excluding Glossy Protection Film).

Louver films, such as Mobile Privacy, have a directional characteristic and the user must determine the correct orientation.

Be aware that handling any polymer film can generate electrostatic charge which can attract dust and debris. Using anti-static measures, such as ionized air blowers, whenever possible, is recommended. Remove any loose debris from the film by using compressed air.

Avoid fingerprints and debris by wearing clean latex gloves and holding the product at the edges.

Keep the area very clean to minimize the likelihood of debris contamination.

As always, protect the film, especially the edges, from any undue shock or stress. Care must be taken during handling to avoid damaging the film.

3M™ Display Surface Products Application Guide

Storage

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 to avoid damaging the product. Ambient temperature and humidity should be controlled to 10-30 degrees C at 35-65% relative humidity.

For additional information on this product line, please visit our website:
www.3mprotectionfilms.com

Important Notice to Purchaser

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.**

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



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27429SA052314RC
75-0500-5329-9