

# 3M Display Materials and Systems Division

3M™ Glossy Low Reflection Protection Film (GLR320)



# Increase protection.

## Reduce reflection while maintaining image clarity.

3M™ GLR320 Protection Film brings display protection and viewing enhancement together, with a durable hardcoat to protect your investment and a low-reflection coating to improve your screen's clarity, even in bright lighting conditions.

- Durable, scratch-resistant, hardcoat protection
- Low-reflection coating provides clear, sharp display enhancement and ambient light management
- Optically clear, ultra-thin film offers up to 96% transmission to keep displays bright with no color distortions
- The low-reflection finish enhances the clarity by providing a near color-neutral, non-conductive, low-reflection surface
- Stay-clean edges to prevent build-up of dirt and dust on sides of film
- Scotchgard™ easy-to-clean surface makes it easy to wipe away even marker and ink pen
- Easy on, easy off – easy to apply. Removes easily, leaving no residue



Over the lifetime of an electronic device, the cost to add a 3M display protection film to help prevent scratches and scuffs and improve viewability is just a few cents compared with the cost to repair or replace a damaged display.

Go to our website at [www.3m.com/displayenhancement](http://www.3m.com/displayenhancement) or contact 3M at **1-800-533-9215** to learn more about our protection films.

## 3M™ GLR320 Protection Film

# Protect against damage and improve your view

In business operations, LCD displays are exposed to harsh environments on a daily basis. Protecting displays helps prevent damage, saving businesses from expensive warranty and repair costs. With the increase in the mobile workforce, glare has also become an increasing obstacle to consider.

3M™ GLR320 Protection Film brings surface protection and viewing enhancement together. It offers a durable hardcoat to protect your display and reduce repair and warranty costs. At the same time, the low-reflection coating improves your screen's clarity, especially in environments where sunlight or bright lighting conditions typically disrupt screen readability. 3M™ Glossy LR Protection Film applies easily, removes easily, leaving no residue and can be custom-cut to fit a variety of display screens.

### 3M™ Glossy Low Reflection Protection Film Product Features

- Durable, scratch-resistant hardcoat
- Low-reflection coating
- Non-conductive, near color-neutral low-reflection surface
- Optically clear, ultra thin film
- Stay clean edges
- Scotchgard™ easy-to-clean surface
- Easy application. Removes easily, leaving no residue

#### Important Notice to Purchaser

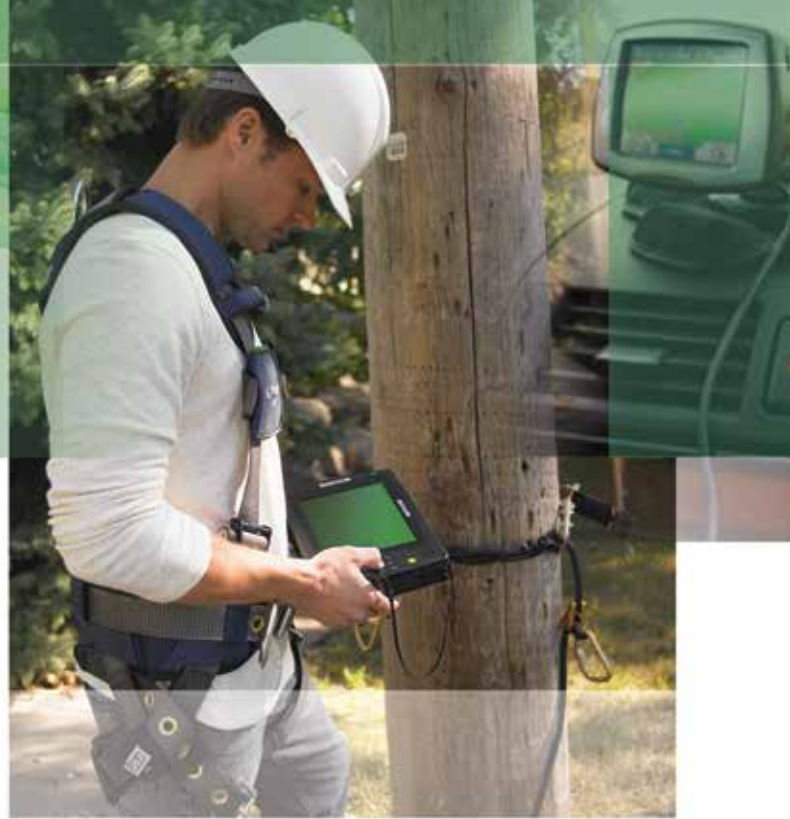
**The following is made in lieu of all warranties, express or implied, including any implied warranties of merchantability or fitness for a particular purpose.** 3M warrants that, at the time of shipment, product will meet 3M's published specification or that specification agreed in writing between 3M 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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For more information visit our website at [www.3m.com/displayenhancement](http://www.3m.com/displayenhancement)  
or call 1.800.553.9215

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#### Typical Film Properties

Thickness	0.130 mm
Hardness	3H (200g)
Steel Wool Abrasion	Light scratching 50 g/cm <sup>2</sup> , 10 rubs, #0000 steel wool
Surface Energy	< 30 dynes/cm
Haze (Gloss Level)	40 at 20 degrees, front surface only
Transmission	up to 96%
Clarity	>= 99%

#### Environmental Testing

Heat Resistance	85C x 500 hrs
Cold Resistance	-40C x 500 hrs
Humidity Resistance	65C/90% relative humidity x 500 hrs
Thermal Shock	-40C x 1 hr/85C x 1 hr) x 100 cycles

#### Storage Requirements

Storage Temp.	15 – 35 degrees C
Storage Humidity	50 +/- 15%

#### Chemical Resistance:

No visible change with exposure to:	Bleach, MEK, IPA, acetone, window cleaner, motor oil, cola, coffee, water insoluble marker, water, hospital grade disinfectants
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