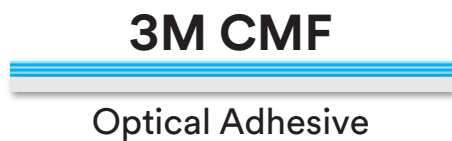


3M™ Cold Mirror Film Mirror Film (CMF)

Product Description

3M™ Cold Mirror Film (CMF) is a reflective polarizing mirror film used in Head-up Display (HUD) type applications to provide high brightness for the projected image while reducing infrared (IR) and visible light sources projected back to the Picture Generating Unit (PGU) through the HUD assembly. It is a multilayer polyester-based film with adhesive.

Structure (not to scale)*



*3M DMSD considers its films and tapes as homogeneous under European Union's Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast) (the RoHS Recast). The product construction described above does not represent the final homogenous film, but is a tool to assist the customer in selecting the proper film that will suit their application needs.

Construction/Performance

Description	3M CMF
Thickness	61 µm nominal
Delamination	≤2.0 mm from edge, excluding tabs
Part Dimensions	Per approved drawing
Effective Transmission	Minimum 1.65
Color shift 0°	Δx: 0.008* Δy: 0.008
Color shift 60°	Δx: 0.015 Δy: 0.015
Haze	Maximum 1.5%
Total Transmittance	Minimum 43%
Reflectivity	Minimum 50%

*Note: Δ is relative to backlight with no enhancement films

Automotive Environmental Testing

Testing condition:

CMF is tested under the following conditions with film laminated to glass.

Test	Condition
Humidity resistance	65°C, 95% relative humidity, 1000 hours
Heat resistance	105°C for 1000 hours
Cold resistance	-40°C for 1000 hours
Thermal shock	95°C for 1 hr to -40°C for 1 hr, 100 cycles



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Technical Information

The technical information, recommendations and other statements contained in this document are based on tests or experience 3M believes reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

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