



## COATING PRODUCT #40107

### HARD CARBON COATING

#### Description

This durable anti-reflection coating is designed to withstand the most severe environmental conditions likely to be encountered in the military or industrial operational applications.

This coating will remain undamaged under conditions such as:

- Exposed exterior surfaces of thermal imaging systems used on Army tracked vehicles and man portable thermal night sights.
- Exposed optical surfaces of Air Force and Navy FLIR systems, including underwater applications.
- Exposed infrared windows where windscreen wipers are required or chemical attack is to be endured.

The minimum transmission values when one surface of a polished germanium substrate 1mm thick is coated with design #40107 and the other surface with high efficiency coating #40101 shall be:

8.0 to 11.5um  $\geq$  90% Average

Reflection from a single surface at near normal incidence shall be:

8.0—11.5um  $\leq$  2.5% Average

This coating will show no signs of removal when exposed to 5000 revolutions of a wiper blade under 40 grams load using a sand and water mixture consisting of 1cc of sand to DEF STAN 07-55 Type C, in 10 ml of water or equivalent

The coating will show no evidence of deterioration when subjected to the salt spray fog test per MIL-C-675, severe abrasion and adhesion test per MIL-C-48497, and the windscreen wiper test in the sequence listed. Following this test, the coating shall be exposed to a relative humidity between 95 and 100 percent at a temperature of 120 degrees F  $\pm$  4 degrees F for a period of 672 hours. After this test, the coating shall again be subjected to the severe abrasion and adhesion test of MIL-C-48497 in the sequence listed here and shall conform to the requirements of paragraphs: Physical, Environmental and Solubility, Blemishes, Spatter and Holes, and Surface Defects.

Other relevant specifications:

The coating is unaffected by immersion in:

- Dilute HCL for 10 minutes
- Salt solution for seven days
- Water for 28 days

Testing is performed on 1mm thick witness pieces from each coating lot unless otherwise specified.

**Coatings are tested to ensure specification compliance and certification can be provided. Customer specified lot-testing is available upon request. Please contact an EEO sales engineer for additional information.**



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