HEAR Coatings
High Efficiency Anti-Reflective IR Coatings

SPECTRAL CHARACTERISTICS

<table>
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<tr>
<th>Spectral Region</th>
<th>Spectral Range</th>
<th>Common Substrate Materials</th>
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</table>
| SWIR            | 0.9 to 2.7µ    | • Glasses  
• Sapphire  
• Zinc Selenide  
• Zinc Sulfide  
• Calcium Fluoride |
| MWIR            | 3.0 to 5.0µ    | • Silicon  
• Germanium  
• Sapphire  
• Zinc Selenide  
• Zinc Sulfide  
• Calcium Fluoride  
• Various Chalcogenides |
| LWIR            | 7.0 to 14.0µ   | • Germanium  
• Zinc Selenide  
• Zinc Sulfide  
• Various Chalcogenides |
| MWIR - LWIR     (multi-spectral) | 3.0 to 14.0µ   | • Germanium  
• Zinc Selenide  
• Zinc Sulfide - MS |

SPECTRAL PERFORMANCE on Ge (8-12µ)

- Average Reflection ≤ 0.3% per Surface
- Near Normal Angle of Incidence
- Transmission average ≥ 98.0%

COATING DURABILITY

- Adhesion: Tape Pull
- Moderate Abrasion
- Humidity: 24 Hours
- Temperature Cycle

STANDARD AND CUSTOM SOLUTIONS

1-833-IR-FRANK  irfrank@dynasil.com
VIRTUALLY 0 PINHOLES

SPECTRAL PERFORMANCE
- Spectral region: 8.0 to 11.5µ (0° to 20° AOI)
- Transmission: ≥ 90% avg.
- Spectral region: 8.0 to 12.0µ (0° to 20° AOI)
- Transmission: ≥ 88% avg.

QUALITY REQUIREMENTS
- Adhesion: Per MIL-M-13508C para 4.4.6 (fast full)
- Abrasion: Per MIL-C-675C para 4.5.10. (severe abrasion 40 strokes)
- Humidity: Per MIL-C-675C para 4.5.8. Min 24 hours
- Solubility: Per MIL-C-675C para 4.5.7. Immersion for period of 24 hours in water/salt
- Salt Spray: Per MIL-C-675C para 4.5.9. Salt spray-fog test for a continuous period of 24 hours
- Windscreen Wiper: No signs of removal when exposed to 5,000 revolutions sand/slurry mixture