

High Durability (HDAR)/ High Efficient Antireflection (HEAR)

Part Number: HD-AR-ZnSe-8-12

Description: High durability coating (HDAR) is used for exterior surface of optics for wear resistance at normal environment. Its wear resistance is superior to HEAR coating.

Substrate Material: ZnSe

Polarization: Average polarization (P-pol+S-pol)/2

Spectral Range: 8-12 μ m (LWIR)

Averaged Reflectance:

Averaged Reflectance in entire spectral range (Ravg)

Maximum Reflectance or Transmission:

Maximum Peak in entire spectral range (Rmax. or Tmax)

Minimum Reflectance or Transmission:

Minimum Peak in entire spectral range (Rmin. or Tmin.)

Measurement: Transmission on 25.4mm dia. x 1mm thick window and reflectance on 6-8 degrees 25.4mm dia. wedged witness sample

Coating Material: Non-radioactive material to be used.

Report: Certificate of Compliance, spectral measurement (reflectance and transmission) and durability test report

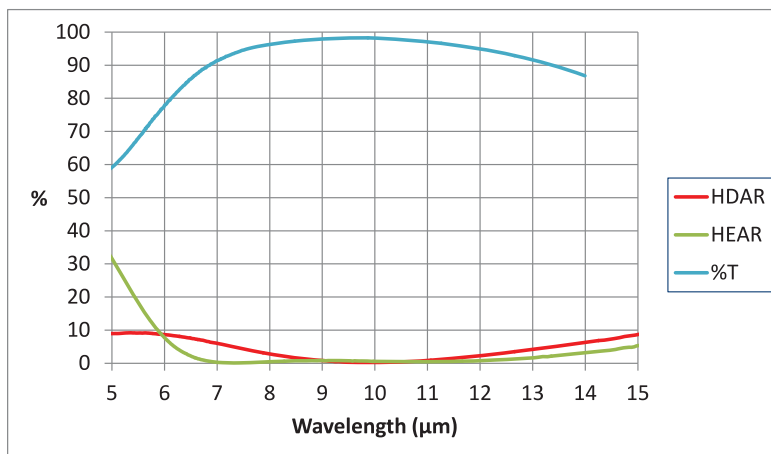


Fig. 1: Transmission/Reflection Curve for HDAR/HEAR 8-12
Substrate: ZnSe

1. HDAR 8-12 μ m on external surface

ITEM	CONDITION	REQUIREMENT
1.1 Reflectance	0-12° AOI	Ravg \leq \pm 2.0% per surface
1.2 Transmission	0-12° AOI	Tavg \geq 96% thru HDAR/HEAR
1.3 Humidity	24 hrs, 95-100%RH, 120 \pm 4°F	MIL-F-48616 / MIL-C-48497C
1.4 Temperature	-80°F to 160°F for 2 hrs at each temperature	MIL-F-48616 / MIL-C-48497C
1.5 Solubility and Cleanability	Immersion test in Trichloroethylene and Ethyl alcohol for 10 min	MIL-F-48616 / MIL-C-48497C
1.6 Adhesion	Adhesion (Cellophane tape test with quick removal)	MIL-F-48616 / MIL-C-48497C
1.7 Abrasion	Severe abrasion (20 cycles under 2 lb force)	MIL-F-48616 / MIL-C-48497C
1.8 Salt fog	24 hrs +	MIL-STD-810C, Para. 509.1

2. HEAR 8-12 μ m on internal surface

ITEM	CONDITION	REQUIREMENT
2.1 Reflectance	0-12° AOI	Ravg \leq \pm 0.5% per surface
2.2 Humidity	24 hrs, 95-100%RH, 120 \pm 4°F	MIL-F-48616 / MIL-C-48497C
2.3 Temperature	-80°F to 160°F for 2 hrs at each temperature	MIL-F-48616 / MIL-C-48497C
2.4 Solubility and Cleanability	Immersion test in Trichloroethylene and Ethyl alcohol for 10 min	MIL-F-48616 / MIL-C-48497C
2.5 Adhesion	Adhesion (Cellophane tape test with quick removal)	MIL-F-48616 / MIL-C-48497C
2.6 Abrasion	Moderate abrasion (25 cycles under 1 lb force)	MIL-F-48616 / MIL-C-48497C
2.7 Salt fog	24 hrs +	MIL-STD-810C, Para. 509.1

For Reference Only

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