



AMTIR-2 Data Sheet

Composition	AsSe
Glass Transition Temperature	Tg 167°C
Expansion Coefficient	$\Delta L / L = 22.4 \times 10^{-6} / ^\circ\text{C}$
Softening Point	188°C
Thermal Conductivity	5.8×10^{-4} cal /cm-sec- °K
Knoop Hardness	110
Young's Modulus E	5.6×10^6 lbs / in ²
Shear Modulus G	1.03×10^6 lbs/in ²
Poisson's Ratio	0.297
Tensile Strength	1440 lbs / in ²
Compressive Strength	8800 lbs / in ²
Rupture Modulus	2500 lbs / in ²
Density	4.66 gm / cm ³
Specific Heat	0.068
Dielectric Constant	9.1
Resistivity	15×10^9 ohm-cm
Dispersion Values 3-5 μm	171
Dispersion Values 8-12 μm	149

Chemical Durability (weight loss in gms in 4 hrs)

H₂O, 25°C - 0.0 H₂O,90°C - 0.0

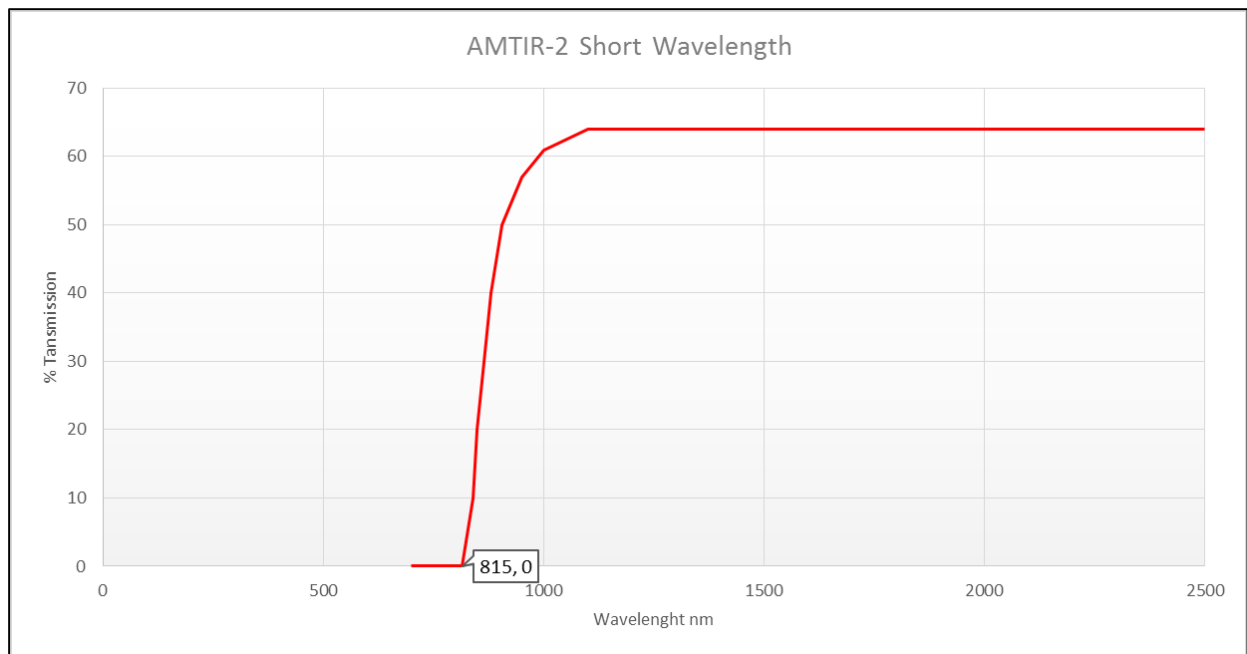
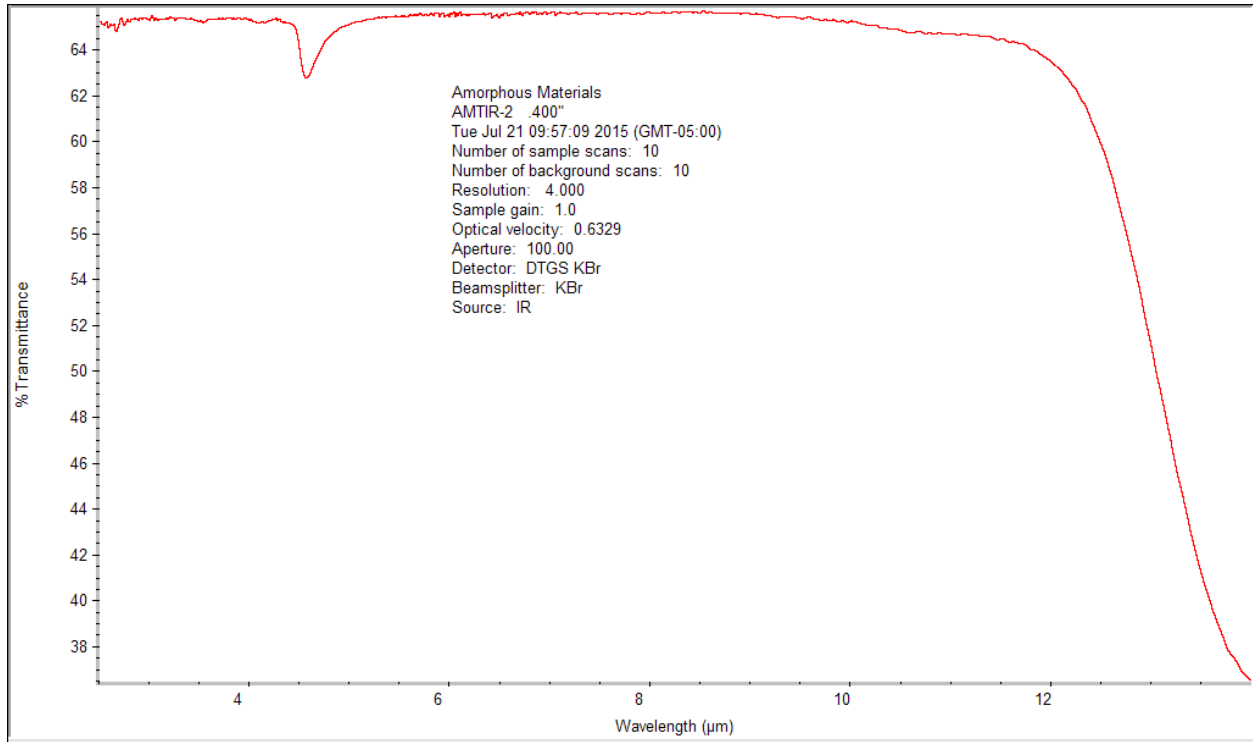
NH₄OH 2%, 60°C - 0.01

KOH, 2%, 60°C - 0.032

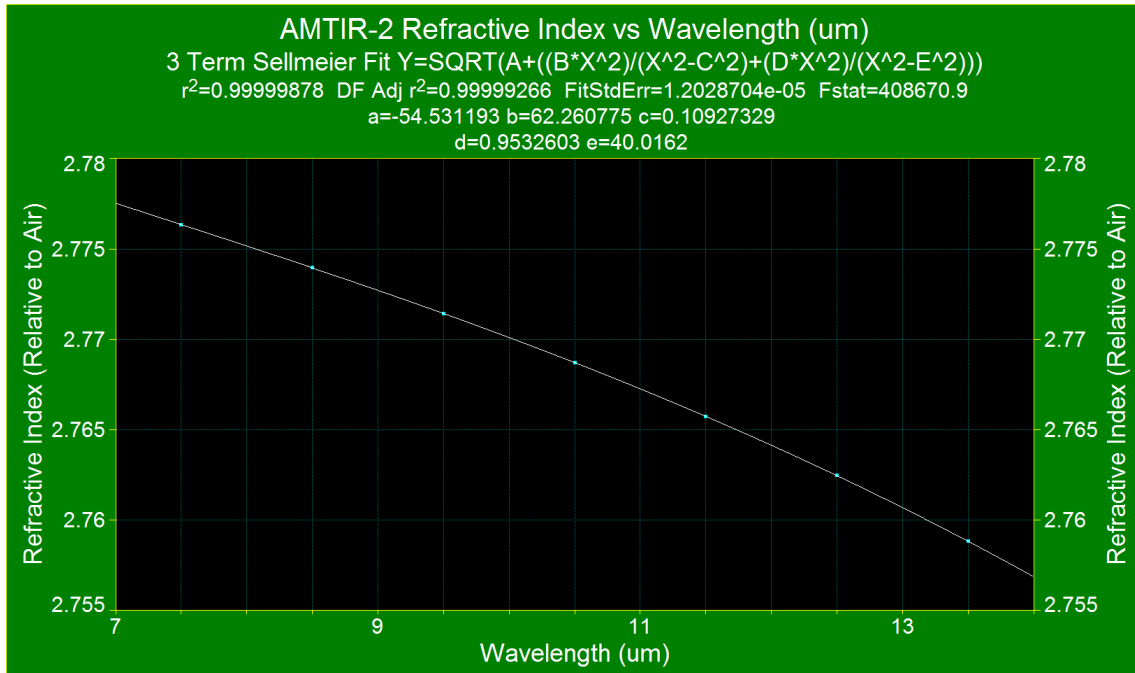
HCL,HNO₃,H₂SO₄,EtOH, 60°C - 0.0

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Amorphous Materials, Inc. Proprietary Information



AMI Refractive Index Values for AMTIR-2



Wavelength (nm)	Refractive Index 21.5 Deg C	Absorption Coefficient cm-1
4000	2.7826	0.01
5000	2.7814	0.02
6000	2.7800	0.01
7000	2.7784	0.01
8000	2.7754	0.01
9000	2.7729	0.01
10000	2.7703	0.01
11000	2.7674	0.016
12000	2.7642	0.031
13000	2.7606	0.022

8000 - 13000 (nm) measured per M3 4000 – 7000 (nm) Sellmeier Extrapolation 20°C

AMTIR-2 dn/dT (linear fit from -40 Deg C to 80 Deg C)

10000 nm 3.00E-05