COMPARISON OF IR TRANSMITTING GLASSES PRODUCED BY AMI

Property	AMTIR-1	AMTIR-2	AMTIR-3	AMTIR-4	AMTIR-5	AMTIR-6	C1
Composition	Ge-As-Se	As-Se	Ge-Sb-Se	As-Se	As-Se	As-S	As-Se-Te
Transmission Range µm	0.7-12	1.0-14	1.0-12	1.0-12	1.0-12	0.6-8	1.2-14
Ref Index @ 10µm	2.4981	2.7703	2.6027	2.646	2.7423	2.3807	2.8051
$\Delta N/\Delta T°C \times 10^{-6}$ @ 10µm	72	30.7	91	-19	20	<1	31
Knoop Hardness	170	110	150	84	87	109	110
Therm Exp $\times 10^{-6}$ / °C	12	22.4	14	27	23.7	21.6	23
Thermal Condx (cal/gm sec°C) 10^{-4}	6	5.3	5.3	5.3	5.7	4	5.2
Specific Heat (cal/gm °C)	0.072	0.068	0.066	0.086	0.076	0.109	0.062
Density gm/cm^3	4.4	4.66	4.67	4.49	4.51	3.2	4.69
Rupture Mod (psi)	2700	2500	2500	2358	2400	2400	2500
Young's Mod (x10^6 psi)	3.2	5.6	3.1	2.2	2.56	2.3	1.8
Shear Mod (x10^6 psi)	1.3	1.03	1.2	0.85	1.01	0.94	1.03
Poisson's Ratio	0.27	0.29	0.26	0.297	0.279	0.24	0.29
Softening Point °C	405	188	295	131	170	210	154
Glass Trans Temp (Tg ° C)	368	167	278	103	143	187	133
Upper Use Temp °C	300	150	250	90	130	150	120
Dispersion Values							
3 - 5 µm	202	171	159	186	175	155	148
8 - 12 µm	109	149	110	235	172		196