



2016 Materials Catalog

Cat No.	Substance	Formula	Product Form	Refractive Index(nd)	Transmission Range	Evaporation Temperature	Typical Source	Application Notes
1100	Aluminum Oxide	Al ₂ O ₃	Granules 2.5 – 5 mm	1.64/550nm	200-5000nm	2000-2200°C	E	A.R. coatings, multilayers, protective film.
1200	Cerium Fluoride	CeF ₃	Granules 1-2.5mm	1.63/500nm	300-5000nm	1429°C	Mo,Ta, E	Broadband A.R.'s for visible, multilayers
1300	Cerium Oxide	CeO ₂	2 gram tablets	2.35/500nm	400-16000nm	1950°C	E	A.R. coatings
1400	Cryolite	Na ₃ AlF ₆	Granules 1-3.5mm	1.33/500nm	250-14000nm	900°C	Mo,Ta, E	A.R. coatings, very fragile films
1500	Hafnium Oxide	HfO ₂	2 gram tablets (Black)	1.95-2.0/500nm	220-5000nm	2500°C	E	U.V.-NIR multilayers, high damage coatings
1510	U.V. Hafnium Oxide	HfO ₂	2 gram tablets (White)	1.95-2.0/500nm	220-5000nm	2500°C	E	U.V.-NIR multilayers, high damage coatings
1600	Mixture A (86/14)	In ₂ O ₃ + SnO ₂	2 gram tablets	2.0/500nm	400-1100nm	1450°C	E	A.K.A. Indium Tin Oxide. Conductive A.R. Substrate temperature of 300°– 350°C
1610	Mixture B (90/20)	In ₂ O ₃ + SnO ₂	2 gram tablets	2.0/500nm	400-1100nm	1450°C	E	A.K.A. Indium Tin Oxide. Conductive A.R. Substrate temperature of 300°– 350°C
1620	Mixture C (95/5)	In ₂ O ₃ + SnO ₂	2 gram tablets	2.0/500nm	400-1100nm	1450°C	E	A.K.A. Indium Tin Oxide. Conductive A.R. Substrate temperature of 300°– 350°C
1800	Magnesium Fluoride	MgF ₂	Granules 1-2.5 mm	1.38/550nm	153-7000nm	1300-1600°C	W,Mo, Ta,E	A.R.'s, beam splitters, multilayers
1808	Magnesium Fluoride	MgF ₂	Granules 1-2.5 mm	1.38/550nm	153-7000nm	1300-1600°C	W,Mo, Ta,E	From Single Crystal, better U.V. and low

								spatter.
1820	Magnesium Fluoride	MgF ₂	Granules 3-6 mm	1.38/550nm	153-7000nm	1300-1600°C	W,Mo, Ta,E	A.R.'s, beam splitters, multilayers
1900	Magnesium Oxide	MgO	.5 gram tablets	1.7/500nm	200-8000nm	2000°C	E	Multilayers
2000	Mixture #1	ZrO ₂ + TiO ₂	1 gram tablets	2.1/500nm	400-7000nm	2300°C	W,E	Excellent material for broadband A.R.
2010	Mixture #1	ZrO ₂ + TiO ₂	1 gram tablets	2.1/500nm	400-7000nm	2300°C	W,E	Excellent material for broadband A.R.
2200	Silicon Dioxide	SiO ₂	Granules 2 - 4 mm	1.45/500nm	200-2000nm	1600-2500°C	E	Multilayers
2300	Silicon Monoxide	SiO	Granules 2.5 – 5 mm	1.85/1300 nm	500-8000nm	1200-1600°C	W,Mo, Ta,E	A.R.'s on Laser Diodes, protective and enhanced films for metals
2320	Silicon Monoxide	SiO	Granules 5 – 9 mm	1.85/1300 nm	500-8000nm	1200-1600°C	W,Mo, Ta,E	A.R.'s on Laser Diodes, protective and enhanced films for metals.
2400	Tantalum Oxide	Ta ₂ O ₅	1 gram tablets	2.1/500nm	400-7000nm	1950°C	E	A.R.'s multilayers, high damage coatings.
2450	Niobium Oxide	Nb ₂ O ₅	1 gram tablets	2.24/550nm	400-7000nm	1800°C	E	A.R.'s multilayers, high damage coatings
2500	Titanium Monoxide	TiO	2 gram tablets	2.4/500nm	400-12000nm	1850°C	W,E	Multilayers
2600	Titanium Oxide	TiO ₂	2.5 gram tablets	2.35/500nm	400-12000nm	2200°C	E	Multilayers, laser mirrors, interference filters, hard and durable films
2610	Titanium Oxide	TiO ₂	5 gram tablets	2.35/500nm	400-12000nm	2200°C	E	Multilayers, laser mirrors, interference filters, hard and durable films
2620	Titanium Oxide	TiO ₂	1 gram tablets	2.35/500nm	400-12000nm	2200°C	E	Multilayers, laser mirrors, interference filters, hard and durable films
2700	Yttrium Oxide	Y ₂ O ₃	1 gram tablets	1.75/550nm	400-8000nm	2500°C	E	Multilayers, broadband A.R.'s
2800	Zirconium Oxide	ZrO ₂	1 gram	2.05/500nm	250-7000nm	2500°C	E	Multilayers,

			tablets					A.R.'s, hard and durable films
2810	Zirconium Oxide	ZrO ₂	6 gram tablets	2.05/500nm	250-7000nm	2500°C	E	Multilayers, A.R.'s, hard and durable films
2811	Zirconium Oxide	ZrO ₂	10 gram tablets	2.05/500nm	250-7000nm	2500°C	E	Multilayers, A.R.'s, hard and durable films
2823	Zirconium Oxide	ZrO ₂	1-5mm white granules	2.05/500nm	250-7000nm	2500°C	E	Multilayers, A.R.'s, hard and durable films
2900	Titanium Trioxide	Ti ₂ O ₃	1 gram tablets	2.10/500nm	400-7000nm	1800°C	E	Multilayers
3000	Barium Fluoride	BaF ₂	2.5-5mm granules	1.4/10600nm	220-15000nm	1280°C	Mo,Ta, Pt,E	U.V. – far I.R. coatings, multilayers, A.R.'s From Single Crystal
3100	Lanthanum Fluoride	LaF ₃	1-5mm granules	1.58/500nm	220-14000nm	1450°C	Mo,E	A.R.'s
3400	Zinc Selenide	ZnSe	1-4mm granules	1.55/1200nm	200-15000nm	1100°C	Mo,Ta, Pt,Al ₂ O ₃ , E	Multilayers, A.R.'s
3500	Zinc Sulfide	ZnS	2-5mm granules	2.4/1200nm	400-14000nm	1100°C	Mo,Ta, E	I.R. Coatings, Multilayers, A.R.'s From Single Crystal
3502	Zinc Sulfide	ZnS	5-9mm granules	2.4/1200nm	400-14000nm	1100°C	Mo,Ta, E	I.R. Coatings, Multilayers, A.R.'s From Single Crystal
3504	Zinc Sulfide	ZnS	5 – 10 mm granules	2.4/1200nm	400-14000nm	1100°C	Mo,Ta, E	I.R. Coatings, Multilayers, A.R.'s From Single Crystal
3600	Yttrium Fluoride/Barium Fluoride Mixture 90%/10%	YF ₃ /BaF ₂	1-5mm granules	1.35 / 10600nm	400-15000nm	1290°C	Mo,Ta, Pt,E	U.V. – far I.R. coatings, multilayers, A.R.'s
3700	FIRM 1	PrF ₃	1-5mm granules	1.34 /10600nm	350-16000nm	1350°C	E	Far I.R. coatings, multilayers, best with IAD.
3900	Scandium Oxide	Sc ₂ O ₃	1 gram tablets	1.95/500nm	250-5000nm	1200-1600°C	E	U.V. coatings
4300	Gold	Au	Shot 2-8mm	N.A.	N.A.		Mo,E	99.99% I.R. mirrors
4600	Silver	Ag	Shot 2-8mm	N.A.	N.A.		W,E, Graphite	99.99% mirrors

Source Guideline: E - Electron Beam Gun Mo – Molybdenum Ta – Tantalum
W – Tungsten Pt – Platinum Al₂O₃ – Aluminum Oxide Graphite – Graphite Liner