

FLUORIDES

Fluorides applications include Low-index film, Anti-reflection coatings on glass, Multilayers, Transparent films in the infrared and others.

FLUORIDES						
MATERIAL	FORMULA	STANDARD PURITIES,	THEORETICAL DENSITY g/cm ³	LISTED MELTING POINT, °C	FABRICATION METHOD	SUGGESTED APPLICATIONS
Aluminum fluoride	AlF ₃	99.5	2.9	1260 sub.	Hot-pressed	Low-index film.
Barium fluoride	BaF ₂	99.9	4.9	1280	Hot-pressed	Possible low index film.
Cadmium fluoride	CdF ₂	99.9	6.6	1100	Hot-pressed	Multilayers
Calcium fluoride	CaF ₂	99.95	3.2	1360	Hot-pressed	Anti-reflection coatings on glass
Cerium fluoride	CeF ₃	99.9	6.2	1430	Hot-pressed	Multilayers. Thin-film capacitors
Hafnium fluoride	HfF ₄	99.5	7.1	Ca. 1000	Hot-pressed	Possible low-index material
Lanthanum fluoride	LaF ₃	99.9	5.9	1493	Hot-pressed	Multilayers.
Lead fluoride	PbF ₂	99.9	8.2	855	Hot-pressed	POSSIBLE POISON. Dielectric interference filter for ultra-violet. High-index film in the ultraviolet.
Lithium fluoride	LiF	99.9	2.6	870	Hot-pressed	Low-index, anti-reflection film
Magnesium	MgF ₂	99.9	3.2	1266	Hot-pressed	Widely used anti-reflection

fluoride						film.
Neodymium fluoride	NdF ₃	99.9	6.5	1374	Hot-pressed	Multilayers. Used with ZnS
Rare earth fluorides	varies	99.9	varies	varies	Hot-pressed	Generally in multi layers.
Sodium aluminum fluoride (cryolite)	Na ₃ AlF ₆	99.95	2.9	1000	Hot-pressed	Low-index film in near infrared. Multilayers with ZnS.
Strontium fluoride	SrF ₂	99.9	4.2	1450	Hot-pressed	Transparent films in the infrared.
Thorium fluoride	ThF ₄	99.9	6.3	900	Hot-pressed	RADIOACTIVE. Low-index film with no absorption in visible and ultraviolet
Yttrium fluoride	YF ₃	99.9	5.1	1152	Hot-pressed	Possible use in multilayers