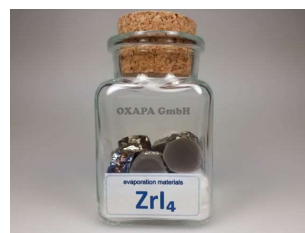
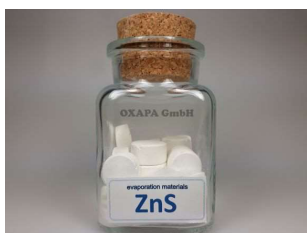
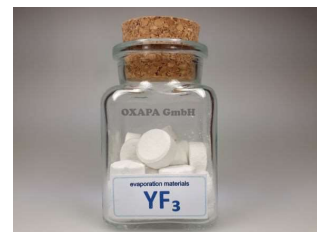
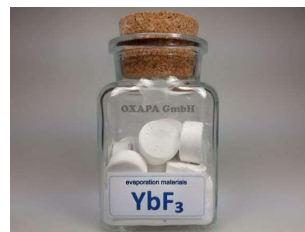
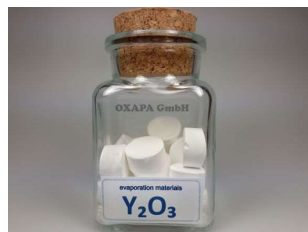
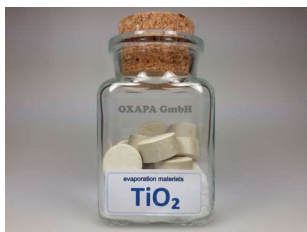
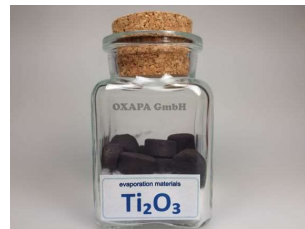
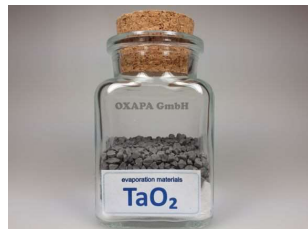
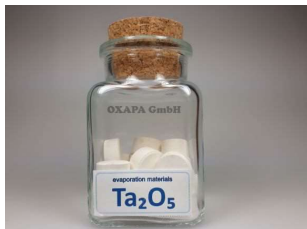
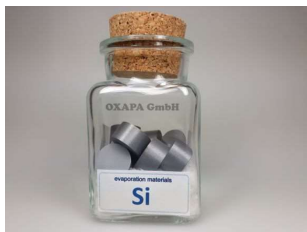
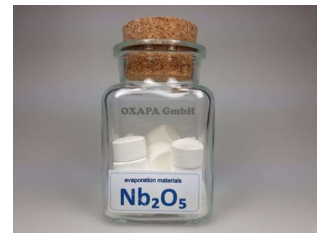
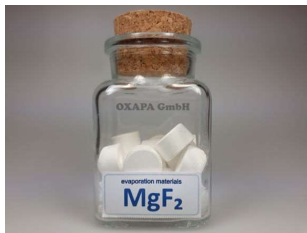
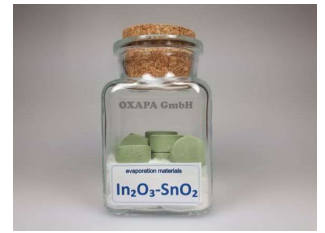
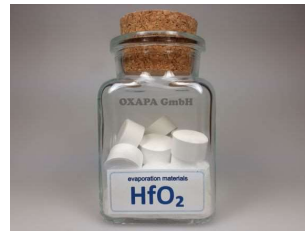
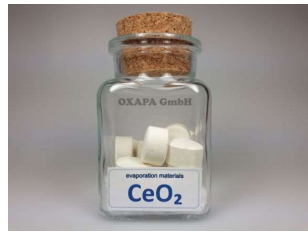
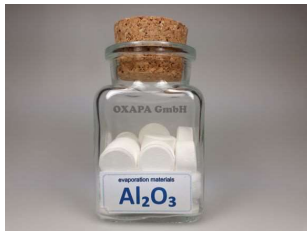


Evaporation Materials



Evaporation Materials: Fluorides

Our evaporation materials are available as granules with size from 1mm, pellets with diameter from 5mm, targets with size up to 1,000mm. They are suitable for both electron- and ion-beam evaporation as well as ion beam sputtering. The parameters in the table below are approximate and depend on the sinter and application conditions.

material	density, g/cm ³ approx.	ranges transmission refractive index	standard size*	price, EUR/kg
AlF₃ aluminium fluoride	2.9	150nm...10µm 1.42 down to 1.30	dia 18 x 10mm granules 1-6mm	360
BaF₂ barium fluoride	4.8	150nm...15µm 1.68 down to 1.31	dia 18 x 10mm granules 1-6mm	360
BaY₂F₈ barium yttrium fluoride	5.0	300nm...10µm 1.55 down to 1.45	dia 18 x 10mm granules 1-6mm	620
BiF₃ bismuth fluoride	5.3	300nm...12.5µm 1.90 down to 1.54	dia 18 x 10mm granules 1-6mm	2,900
CaF₂ calcium fluoride	3.2	150nm...10µm 1.57 down to 1.30	dia 18 x 10mm granules 1-6mm	190
CeF₃ cerium fluoride	6.2	300nm...12.5µm 1.75 down to 1.38	dia 18 x 10mm granules 1-6mm	400
DyF₃ dysprosium fluoride	7.5		dia 18 x 10mm granules 1-6mm	2,380
LaF₃ lanthanum trifluoride	5.9		dia 18 x 10mm granules 1-6mm	380
MgF₂ magnesium fluoride	3.2	140nm...7µm 1.50 down to 1.30	dia 18 x 10mm granules 1-6mm	220
Na₃AlF₆ cryolite	3.0	190nm...11.5µm 1.45 down to 1.22	dia 18 x 10mm granules 1-6mm	370
PbF₂ lead fluoride	8.2	300nm...12.5µm 1.94 down to 1.57	dia 18 x 10mm granules 1-6mm	460
SrF₂ strontium fluoride	4.2	190nm...12.5µm 1.51 down to 1.29	dia 18 x 10mm granules 1-6mm	460
YF₃ yttrium fluoride	4.0	190nm...12.5µm 1.65 down to 1.25	dia 18 x 10mm granules 1-6mm	430
YbF₃ ytterbium fluoride	8.2	190nm...12.5µm 1.64 down to 1.33	dia 18 x 10mm granules 1-6mm	840

* other forms and sizes are possible as well
recommended crystalline quartz deposition monitors:
- with silver as electrode material

Evaporation Materials: Oxides

Our evaporation materials are available as granules with size from 1mm, pellets with diameter from 5mm, targets with size up to 1,000mm. They are suitable for both electron- and ion-beam evaporation as well as ion beam sputtering. The parameters in the table below are approximate and depend on the sinter and application conditions.

material	density, g/cm ³ approx.	ranges transmission refractive index	standard size*	price, EUR/kg
Al₂O₃ aluminium oxide	3.9	190nm...7µm 1.92 down to 1.47	dia 18 x 10mm granules 1-6mm	220
CeO₂ cerium oxide	7.3	400nm...12.5µm 2.23 down to 1.90	dia 18 x 10mm granules 1-6mm	260
HfO₂ hafnium oxide	9.5	190nm...7µm 1.48 down to 1.90	dia 18 x 10mm granules 1-6mm	1,137
HfO₂-Y₂O₃ hafnium oxide- yttrium oxide	7.2	400nm...7µm 2.20 down to 1.90	dia 18 x 10mm granules 1-6mm	1,140
In₂O₃ indium oxide	7.2	400nm...1µm 2.06 down to 1.64	dia 18 x 10mm granules 1-6mm	940
In₂O₃-CeO₂ indium-cer oxide	7.0	300nm...1µm 2.06 down to 1.64	dia 18 x 10mm granules 1-6mm	1,300
In₂O₃-SnO₂ indium-tin oxide	7.1	400nm...1µm 2.06 down to 1.64	dia 18 x 10mm granules 1-6mm	1,000
MgO magnesium oxide	3.6	300nm...8µm 1.80 down to 1.61	dia 18 x 10mm granules 1-6mm	352
Nb₂O₅ niobium oxide	4.5	400nm...7µm 2.54 down to 2.10	dia 18 x 10mm granules 1-6mm	300
Sb₂O₃ antimony trioxide	5.2	400nm...12.5µm 2.15 down to 1.55	dia 18 x 10mm granules 1-6mm	by request
Sc₂O₃ scandium oxide	3.9	300nm...1.2µm 2.15 down to 1.97	dia 18 x 10mm granules 1-6mm	4,320
SiO silicon monoxide	2.1	800nm...8µm 1.93 down to 1.16	dia 18 x 10mm granules 1-6mm	146
Si₂O₃ disilicon trioxide	2.2	300nm...7µm 1.55 down to 1.40	dia 18 x 10mm granules 1-6mm	200
SiO₂ silicon dioxide	2.3	190nm...2µm 1.56 down to 1.44	dia 18 x 10mm granules 1-6mm	130

* other forms and sizes are possible as well
recommended crystalline quartz deposition monitors:
- with silver as electrode material (choice 1)
- with gold as electrode material (choice 2)

Evaporation Materials: Oxides

Our evaporation materials are available as granules with size from 1mm, pellets with diameter from 5mm, targets with size up to 1,000mm. They are suitable for both electron- and ion-beam evaporation as well as ion beam sputtering. The parameters in the table below are approximate and depend on the sinter and application conditions.

material	density, g/cm ³ approx.	ranges transmission refractive index	standard size*	price, EUR/kg
TaO₂ tantalum dioxide	8.2	300nm...7µm 2.34 down to 1.77	dia 18 x 10mm granules 1-6mm	880
Ta₂O₅ tantalum pentoxide	8.2	300nm...7µm 2.34 down to 1.77	dia 18 x 10mm granules 1-6mm	800
TiO titanium monoxide	4.9	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	240
Ti₂O₃ ditanium trioxide	4.6	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	220
Ti₃O₅ tritanium pentoxide	4.6	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	220
TiO₂ titanium dioxide	4.2	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	170
Y₂O₃ yttrium oxide	5.0	300nm...8µm 2.07 down to 1.74	dia 18 x 10mm granules 1-6mm	350
Yb₂O₃ ytterbium oxide	9.2	400nm...8µm 1.98 down to 1.74	dia 18 x 10mm granules 1-6mm	370
ZrO zirconium monoxide	6.4	300nm...7µm 2.25 down to 1.96	dia 18 x 10mm granules 1-6mm	340
ZrO₂ zirconium dioxide	5.6	300nm...7µm 2.25 down to 1.96	dia 18 x 10mm granules 1-6mm	170
ZrO₂-Y₂O₃ zirconium dioxide- yttrium oxide	5.5	300nm...7µm 2.25 down to 1.96	dia 18 x 10mm granules 1-6mm	180

* other forms and sizes are possible as well
recommended crystalline quartz deposition monitors:
- with silver as electrode material (choice 1)
- with gold as electrode material (choice 2)