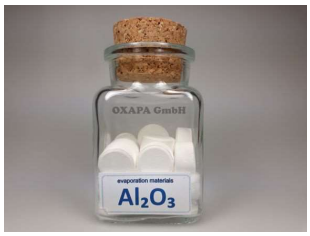
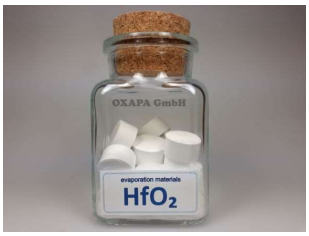
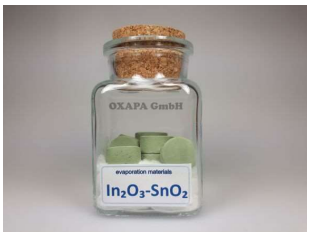
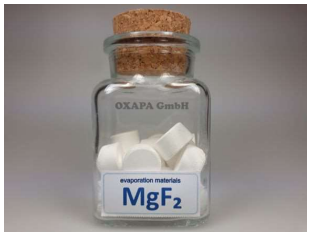
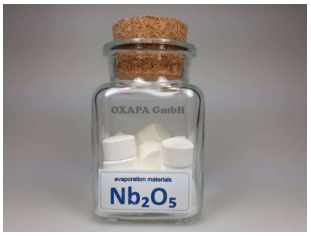
Evaporation Materials

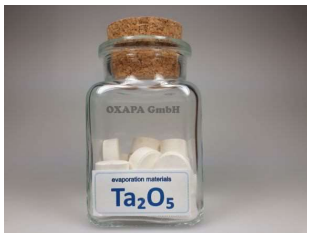


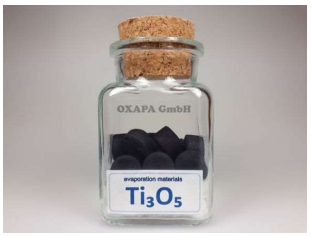


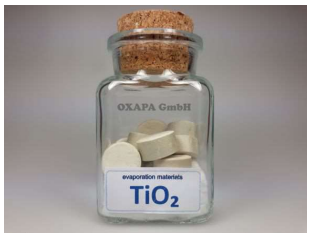


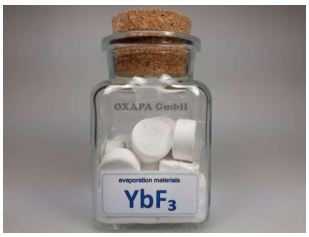


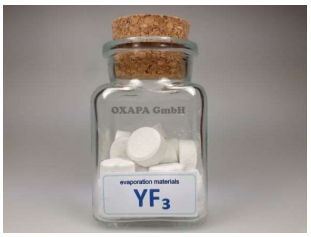


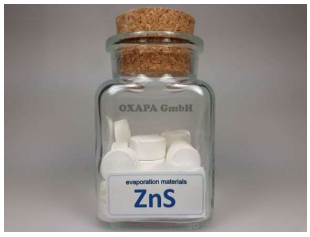












Evaporation Materials: Fluorides

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
AlF_3 aluminium fluoride	2.9	150nm...10µm 1.42 down to 1.30	dia 18 x 10mm granules 1-6mm	310
BaF_2 barium fluoride	4.8	150nm...15µm 1.68 down to 1.31	dia 18 x 10mm granules 1-6mm	310
BaY_2F_8 barium yttrium fluoride	5.0	300nm...10µm 1.55 down to 1.45	dia 18 x 10mm granules 1-6mm	570
BiF_3 bismuth fluoride	5.3	300nm...12.5µm 1.90 down to 1.54	dia 18 x 10mm granules 1-6mm	2,850
CeF_3 cerium fluoride	6.2	300nm...12.5µm 1.75 down to 1.38	dia 18 x 10mm granules 1-6mm	350
MgF_2 magnesium fluoride	3.2	140nm...7µm 1.50 down to 1.30	dia 18 x 10mm granules 1-6mm	170
Na_3AlF_6 cryolite	3.0	190nm...11.5µm 1.45 down to 1.22	dia 18 x 10mm granules 1-6mm	320
PbF_2 lead fluoride	8.2	300nm...12.5µm 1.94 down to 1.57	dia 18 x 10mm granules 1-6mm	410
SrF_2 strontium fluoride	4.2	190nm...12.5µm 1.51 down to 1.29	dia 18 x 10mm granules 1-6mm	410
YF_3 yttrium fluoride	4.0	190nm...12.5µm 1.65 down to 1.25	dia 18 x 10mm granules 1-6mm	380
YbF_3 ytterbium fluoride	8.2	190nm...12.5µm 1.64 down to 1.33	dia 18 x 10mm granules 1-6mm	790

* 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
Al_2O_3 aluminium oxide	3.9	190nm...7µm 1.92 down to 1.47	dia 18 x 10mm granules 1-6mm	170
CeO_2 cerium oxide	7.3	400nm...12.5µm 2.23 down to 1.90	dia 18 x 10mm granules 1-6mm	210
HfO_2 hafnium oxide	9.5	190nm...7µm 1.48 down to 1.90	dia 18 x 10mm granules 1-6mm	1,100 (pellets) 790 (granules)
HfO_2-Y_2O_3 hafnium oxide-yttrium oxide	7.2	400nm...7µm 2.20 down to 1.90	dia 18 x 10mm granules 1-6mm	1,090
In_2O_3 indium oxide	7.2	400nm...1µm 2.06 down to 1.64	dia 18 x 10mm granules 1-6mm	890
In_2O_3-CeO_2 indium-cer oxide	7.0	300nm...1µm 2.06 down to 1.64	dia 18 x 10mm granules 1-6mm	1,250
In_2O_3-SnO_2 indium-tin oxide	7.1	400nm...1µm 2.06 down to 1.64	dia 18 x 10mm granules 1-6mm	950
MgO magnesium oxide	3.6	300nm...8µm 1.80 down to 1.61	dia 18 x 10mm granules 1-6mm	302
Nb_2O_5 niobium oxide	4.5	400nm...7µm 2.54 down to 2.10	dia 18 x 10mm granules 1-6mm	250
Sb_2O_3 antimony trioxide	5.2	400nm...12.5µm 2.15 down to 1.55	dia 18 x 10mm granules 1-6mm	by request
Sc_2O_3 scandium oxide	3.9	300nm...1.2µm 2.15 down to 1.97	dia 18 x 10mm granules 1-6mm	4,287
SiO silicon monoxide	2.1	800nm...8µm 1.93 downt to 1.16	dia 18 x 10mm granules 1-6mm	96
Si_2O_3 disilicon trioxide	2.2	300nm...7µm 1.55 down to 1.40	dia 18 x 10mm granules 1-6mm	150
SiO_2 silicon dioxide	2.3	190nm...2µm 1.56 down to 1.44	dia 18 x 10mm granules 1-6mm	80

* 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
TaO_2 tantalum dioxide	8.2	300nm...7µm 2.34 down to 1.77	dia 18 x 10mm granules 1-6mm	830
Ta_2O_5 tantalum pentoxide	8.2	300nm...7µm 2.34 down to 1.77	dia 18 x 10mm granules 1-6mm	750
TiO titanium monoxide	4.9	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	190
Ti_2O_3 ditanium trioxide	4.6	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	170
Ti_3O_5 tritinanium pentoxide	4.6	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	170
TiO_2 titanium dioxide	4.2	400nm...10µm 2.68 down to 1.39	dia 18 x 10mm granules 1-6mm	120
Y_2O_3 yttrium oxide	5.0	300nm...8µm 2.07 down to 1.74	dia 18 x 10mm granules 1-6mm	300
Yb_2O_3 ytterbium oxide	9.2	400nm...8µm 1.98 down to 1.74	dia 18 x 10mm granules 1-6mm	320
ZrO zirconium monoxide	6.4	300nm...7µm 2.25 down to 1.96	dia 18 x 10mm granules 1-6mm	290
ZrO_2 zirconium dioxide	5.6	300nm...7µm 2.25 down to 1.96	dia 18 x 10mm granules 1-6mm	120
ZrO_2-Y_2O_3 zirconium dioxide-yttrium oxide	5.5	300nm...7µm 2.25 down to 1.96	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)