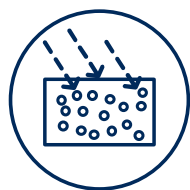


Opaque fused quartz Ilmasil™ PO-1 and PO-2 for epitaxy

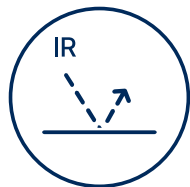
High-performance materials for advanced epitaxy processes

High purity. Optimized infrared ray blocking. Reliable thermal shock resistance and thermal shielding. Designed for next-generation semiconductor growth.

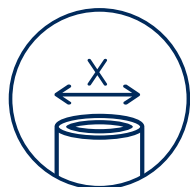
Epitaxy refers to a technology used in the chip manufacturing process to grow new crystals on the original wafer to make a new semiconductor layer. Opaque quartz glass is an ideal choice for components in epitaxy chambers. Because of its high purity and low conductivity, SCHOTT's opaque quartz glass Ilmasil™ PO-1 and PO-2 are applied in key epitaxy equipments and support stable process conditions, enhanced uniformity, and long-term durability.



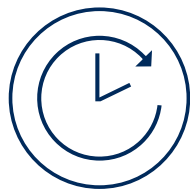
High optical opacity for sensitive epitaxial process



Excellent heat resistance



Customizable dimensions to manufacture flanges and liners



Long service lifetime

Available sizes in Ilmasil™ PO-1/Ilmasil™ PO-2

Outer diameter (mm)	Maximum inner diameter (mm)	Minimum inner diameter (mm)
Tolerance: +10/-0	Tolerance: +0/-20	Tolerance: +0/-20
126	113	100
145	132	90
160	146	130
180	166	145
200	186	165
205	190	170
215	199	175
225	205	185
240	220	204
260	240	215
280	260	220
300	280	235
315	295	255
335	315	270
360	340	275
375	355	290
414	395	315
420	400	330
430	400	360
465	425	385
475	435	395
485	445	380
510	470	365
520	485	430
550	490	430

Material shapes and sizes

Heavy-walled cylinders, plates and ingots are available in a wide range of sizes with cut, ground or polished surface.



Heavy-walled cylinders

OD 100–550 mm
up to OD 800 mm
via thermal reflow



Plates

400 x 350 x 70 mm
1000 x 700 x 65 mm
Near net shape upon request



Ingots

DIA 300 mm
DIA 350 mm
Other diameters upon request

Opaque fused quartz Ilmasil™ PO-1 and PO-2 for epitaxy

Chemical properties

Typical trace elements of Ilmasil™ PO-1

Element	Typical content in ppm	Maximum content in ppm
Al	15	20
Ca	0.8	1.5
Cr	< 0.05	0.05
Cu	< 0.03	0.05
Fe	0.3	1
K	0.7	1.5
Li	0.5	1.5
Mn	0.05	0.1
Na	1	1.5
Ni	< 0.02	0.05
Ti	1.5	2
Zr	1.5	2.7
OH-content*	< 100	100

Typical trace elements of Ilmasil™ PO-2

Element	Typical content in ppm	Maximum content in ppm
Al	8	10
Ca	0.7	1.1
Cr	< 0.05	0.05
Cu	< 0.03	0.05
Fe	0.2	0.4
K	0.2	0.3
Li	0.2	0.4
Mn	< 0.01	0.03
Na	0.2	0.4
Ni	< 0.01	0.02
Ti	1.4	2
Zr	1	2
OH-content*	< 100	100

OH-content

Typical: < 100 ppm*

Tolerance: max. 100 ppm*

Stability: after thermal treatment, a decrease of maximum 3 ppm is obtainable by tempering the material at 1000 °C under vacuum for a period of 30 hours.

* OH-content: values are applicable for non-flameworked material only

[schott.com](https://www.schott.com)

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