Ilmasil™ PQ
Clear fused quartz cylinder

Product standard

Ilmasil™ PQ is an electrically fused, clear quartz, manufactured from synthetic high purity quartz grain by hydrothermal growths technology, using SCHOTT Quartz Glass' proprietary plasma melting process.

Application

This criteria is applicable to cylinder produced with Ilmasil™ PQ clear fused quartz material

Visual characteristics

This specification applies to the specified bulk. The range above the nominal outer diameter and below the nominal inner diameter may not meet the specification. All products are inspected visually at a distance of 0.3 – 0.6 meter from the inspector, under controlled illumination conditions.

Bubbles

Definition: a spherical void within the bulk

Limit:

Bubbles[1] diameter in mm	TBCS[2] value mm²/100 cm³	Number per 1000 cm³
0.1 – 0.3	1.0	–
0.3 – 0.5	–	2
> 0.5 – 1	–	1
> 1 – 2	–	0
> 2	–	0

[1] Bubbles smaller than diameter 0.1 mm are disregarded
[2] TBCS: total bubble cross section: the sum of all cross sectional area in specified glass volume

Bubble clusters

Definition: a group of bubbles occurring close together

Limit: not permitted if the whole cluster exceeds the limit of diameter 2 mm

Inclusions

Definition: foreign particles found within the glass, causing visible discoloration

Limit:

Inclusions[3] diameter in mm	TBCS[4] value mm²/100 cm³	Number[2] per 1000 cm³
0.1 – 0.3	1.0	–
> 0.3 – 0.5	–	0.1
> 0.5 – 1	–	0.1
> 1 – 2	–	0
> 2	–	0

[3] Inclusions smaller than diameter 0.1 mm are disregarded
[4] Inclusions in diameter 0.1 – 0.3 mm are treated as bubbles. The total cross sectional area of all bubbles and inclusions in diameter 0.1 – 0.3 mm may not exceed the value of 1.0 mm² per 100 cm³

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Comment:

This specification applies to cylinder as shipped to the customer (cut segments). Any claims regarding defects must be declared prior to modification. Any section of the cylinder found to be out of specification by SCHOTT Quartz Glass prior to shipment will be clearly marked and deducted from the invoiced length.

Dimensional characteristics

Outer diameter (OD)

Definition: all outer diameter values of the cross sectional plane along the entire length of the cylinder

Limit: nominal outer diameter +10/–0 mm

Inside diameter (ID)

Definition: all inner diameter values of the cross sectional plane along the entire length of the cylinder

Limit: nominal inner diameter +0/–10 mm

Length (L)

Definition: distance of the finished cylinder from end to end

Limit: nominal length +10/–0 mm

Surface characteristics

Outer surface: ground

Roughness limit: not specified

Inner surface: typically firepolished or surface may be ground at manufacturer's discretion

Roughness limit: not specified

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