

## Next Generation Feedstock

### Electric fused single-step quartz tube

#### General Product Description

Heraeus Feedstock is produced in a single-step electrically fused production method which is designed for semiconductor applications. The tubing is made from natural quartz grains purified in Heraeus' refinement process. Our next generation feedstock tube has a larger outer diameter of 285mm while maintaining the weight per length ratio supporting more cost efficient resizing operations for 8" and 12" semiconductor process tubes.

#### Material Grades

- HSQ® 300
- HSQ® 330
- HSQ® 330S

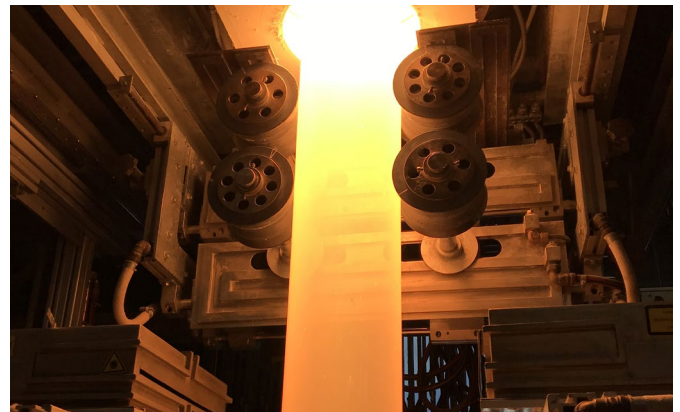
#### Geometrical Data

Feature	Value	Tolerance
Diameter [mm]	OD 285 (next generation) OD 235	± 5
Wall [mm]	OD 285: 7.7 OD 235: 7.5 / 9.5	+ 1 / -0.5
Length [mm]	2500 / 3000 / 3500	+50 / -0

Feature	Area	Tolerance
Ovality	manufactured length	1% of OD tolerance
Siding [mm]	OD 285 OD 235	< 0.45
Bow [mm]	all dimensions	< 1mm / 1m

#### Physical Properties

Softening temperature	~ 1710 °C
Annealing temperature	~ 1220 °C
Strain temperature	~ 1225 °C
Viscosity at 1300 °C	13 dPas
Maximum working temperature	continuous: ~ 1150 °C short term: ~ 1300 °C



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#### Visual Features

##### Tolerance

Closed bubbles [m <sup>-1</sup> ]	< 2pc ø 3mm, < 4pc ø 2mm, < 20pc ø 1mm
Open bubbles [m <sup>-1</sup> ]	inner surface: none outer surface: < 2
Inclusions [m <sup>-1</sup> ]	< 2
Particles / Devitrification / Rework [m <sup>-1</sup> ]	inner surface: none outer surface: < 5

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