

1. General

This Material Specification describes the chemical and physical properties of RQ 235 of Raesch Quarz (Germany) GmbH.

2. Chemical Composition

SiO₂ [%] 99.9

RQ 235 contains the following impurities in ppm:

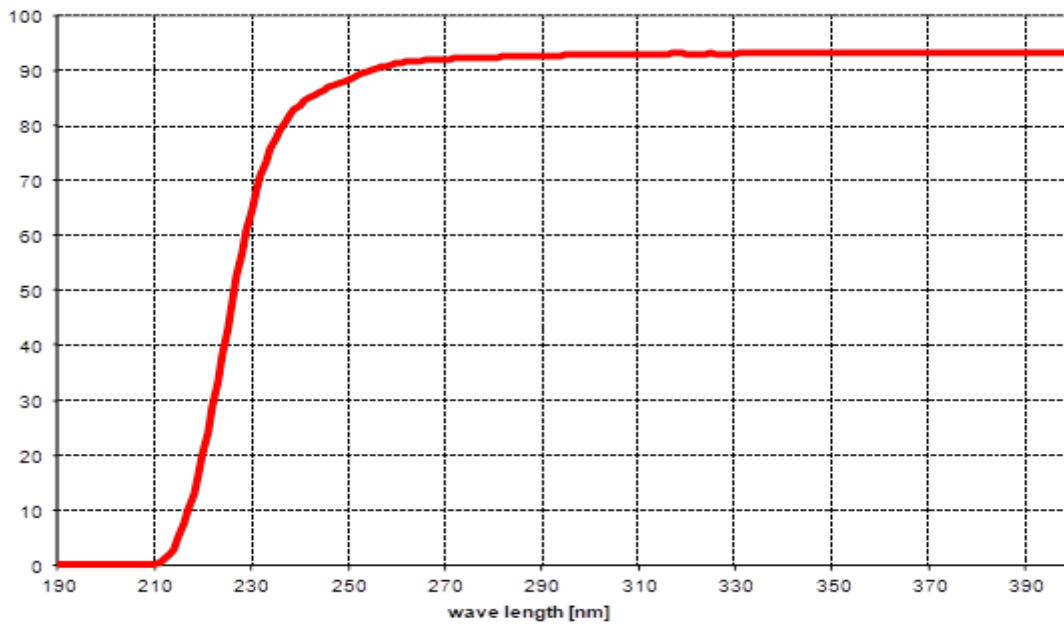
Elements	RQ235	
	Typical	Max
Al	15	18
B	≤0,1	0,1
Ca	0,6	1
Co	≤0,01	0,01
Cr	0,01	0,04
Cu	0,02	0,05
Fe	0,2	0,6
K	0,5	1,3
Li	0,7	1,1
Mg	<0,1	0,2
Mn	<0,1	0,2
Na	0,8	1,5
Ni	<0,01	0,04
Ti	100	

3. Transmission Properties

Limits for transmission values of 1 [mm] wall thickness:

Wave length λ [nm]	205	220	230	240	254	300	350
Transmission T [%]	< 3	< 20	40 < T < 65	> 75	> 85	> 89	>90

Transmission curve RQ 235



4. Physical Properties

Linear thermal expansion coefficient	(20 - 320)°C	[10 ⁻⁶ K ⁻¹]	0.54
Modulus of elasticity		[GPa]	66
Poisson-Number		[1]	0.17
Density		[gcm ⁻³]	2.2
Transformation temperature		[°C]	ca. 1200
Viscosity		[dPas]	[°C]
Strain point		10 ^{14.7}	1167
Annealing point		10 ^{13.2}	1255
Softening temperature		10 ^{7.6}	1760
Working temperature		10 ⁴	1990
Devitrification range		[°C]	1000 - 1700
Max working temperature			[°C]
Permanent with cooling to room temperature			1000
Permanent with cooling to 300°C			1200
Short time			1300
Electrical resistance		[Ωcm]	[°C]
		10 ⁴	1660
		10 ⁶	1000
		10 ⁸	510
Dielectric constant	at 20°C, 1 MHz	[1]	3.7
Dielectric loss factor	at 20°C, 1MHz	[10 ⁻⁴]	< 1
Refractive index	at λ = 587,6 nm	[1]	1.459
Thermal conductivity	at 20°C	[Wm ⁻¹ K ⁻¹]	1.4

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Effective Documents:

Product Specifications

Revision History		
Rev.	date	Description of Change
0	01.04.2019	<ul style="list-style-type: none">• new document