

## Heraeus Lamp Quality HLQ<sup>®</sup> 210 – High homogeneity fused quartz tubes and sleeves

HLQ<sup>®</sup> 210 is a premium undoped electrically fused quartz material for use where a high homogeneity as well as a low bubble and defect content is required.

Typical applications are:

- Laser excitation
- Cosmetic and medical high quality lamps
- Medium pressure discharge lamps including mercury vapor and metal halide lamps
- High quality heavy wall lamp bulb e. g. for stage and studio

HLQ<sup>®</sup> 210 is produced by a multi-step process and is available in a wide range of diameters and wall thicknesses. The multi-step process avoids forming tools (die or mandrel) thereby achieving excellent homogeneity and surface finish.

HLQ<sup>®</sup> 210 tubing is available with different OH contents. The standard OH content of 30 ppm can be reduced by annealing to < 1ppm.

Furthermore, the production process allows low minimum order quantities.

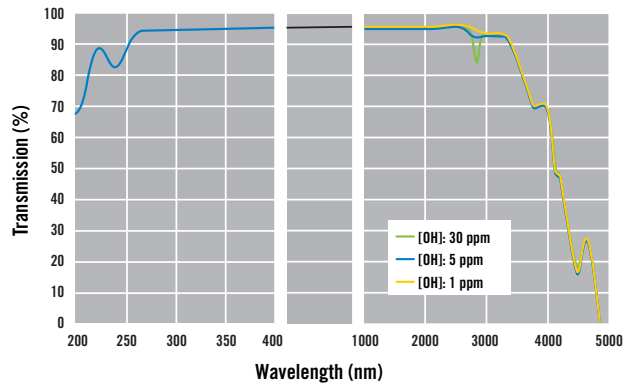
# Heraeus Lamp Quality (HLQ®) – high homogeneity fused quartz tubes and sleeves

## Dimensions

Outer diameter	Tolerance	Wall	Tolerance		
≥ 2.0 – ≤ 8.0	± 0.2	≥ 0.4 – ≤ 0.5	± 0.15		
		> 0.5 – ≤ 1.2	± 0.2		
		> 1.2 – ≤ 2.0	± 0.3		
		> 8.0 – ≤ 17.0	± 0.3	≥ 0.8 – ≤ 1.2	± 0.2
		> 1.2 – ≤ 2.0		± 0.3	
		> 2.0 – ≤ 2.8		± 0.4	
> 2.8 – ≤ 3.5	± 0.5				
> 17.0 – ≤ 25.0	± 0.4	≥ 1.0 – ≤ 1.2		± 0.2	
> 1.2 – ≤ 2.0		± 0.3			
> 2.0 – ≤ 2.8		± 0.4			
> 2.8 – ≤ 3.7		± 0.5			
> 3.7 – ≤ 4.5		± 0.6			
> 4.5 – ≤ 6.0		± 0.7			
> 25.0 – ≤ 30.0	± 0.5	> 1.2 – ≤ 2.0	± 0.3		
		> 2.0 – ≤ 2.8	± 0.4		
		> 2.8 – ≤ 3.7	± 0.5		
		> 3.7 – ≤ 4.5	± 0.6		
		> 4.5 – ≤ 6.0	± 0.7		
		> 30.0 – ≤ 35.0	± 0.6	> 1.2 – ≤ 2.0	± 0.3
> 2.0 – ≤ 2.8	± 0.4				
> 2.8 – ≤ 3.7	± 0.5				
> 3.7 – ≤ 4.5	± 0.7				
> 4.5 – ≤ 6.0	± 0.8				
> 35.0 – ≤ 40.0	± 0.8	> 1.2 – ≤ 2.0		± 0.3	
> 2.0 – ≤ 2.8		± 0.4			
> 2.8 – ≤ 3.7		± 0.5			
> 3.7 – ≤ 4.5		± 0.7			
> 4.5 – ≤ 6.0		± 0.8			
> 40.0 – ≤ 50.0		± 1.0	> 1.8 – ≤ 2.5	± 0.5	
> 2.5 – ≤ 3.0	± 0.6				
> 3.0 – ≤ 4.0	± 0.8				
> 4.0 – ≤ 4.5	± 1.0				
> 4.5 – ≤ 6.0	± 1.2				
> 50.0 – ≤ 60.0	± 1.3		> 1.8 – ≤ 2.5	± 0.5	
> 2.5 – ≤ 3.0		± 0.6			
> 3.0 – ≤ 4.0		± 0.8			
> 4.0 – ≤ 4.5		± 1.0			
> 4.5 – ≤ 6.0		± 1.2			
> 60.0 – ≤ 90.0		± 2.0	> 1.8 – ≤ 2.5	± 0.5	
> 2.5 – ≤ 3.0	± 0.6				
> 3.0 – ≤ 4.0	± 0.8				
> 4.0 – ≤ 4.5	± 1.0				
> 4.5 – ≤ 6.0	± 1.2				

Other dimensions and tolerances on request.

## Typical Spectral Transmittance of HLQ® 210



## OH content (ppm, µg/g)

HLQ® 210	≈ 30
HLQ® 210 V8	< 3
HLQ® 210 V40	< 1

## Typical chemical impurities (bulk) (ppm, µg/g)

	Li	Na	K	Mg	Ca	Fe
HLQ® 210	0.6	0.3	0.4	0.05	0.5	0.1
	Cu	Cr	Mn	Al	Ti	
HLQ® 210	<0.05	<0.05	<0.05	15	1.1	

## Properties and Applications

Properties	HLQ® 210
Devitrification resistance	●
Temperature resistance	●
Homogeneity	●
Best surface finish	●
Application	
Medium pressure lamps	●
Short arc lamps	
(e. g. i-line, cinema, stage & studio)	●
Long arc lamps (e.g. laser excitation)	●

● ideally suited ● partially suited

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