

Philips Lighting Components

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Philips 4096 pellets

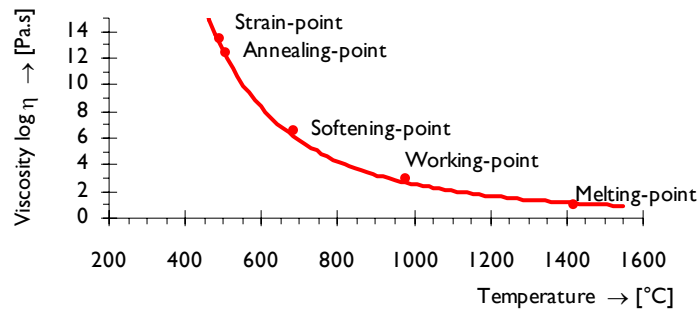
Type: **PH4096 Studio 96**
 Application: Studio glass, art work
 Code: 4322 112 75321 (Drums 200 kg)

Technical data (typical values)

Thermal properties

Coefficient of expansion	25-300 °C	9,6	°C ⁻¹ (x10 ⁻⁶)
	75-570 °F	9,6	°F ⁻¹ (x10 ⁻⁶)
Conductivity	20 °C		W.m ⁻¹ .°C ⁻¹
Viscosity data			
Strain point	10 ^{13,5} Pa.s	486°C / 910°F	
Annealing point	10 ^{12,4} Pa.s	505°C / 940°F	
Softening point	10 ^{6,6} Pa.s	681°C / 1260°F	
Working point	10 ³ Pa.s	978°C / 1790°F	
Melting point	10 ¹ Pa.s	1416°C / 2580°F	

Viscosity curve



Mechanical Properties

Density	20 °C	2,509	kg.m ⁻³ (x10 ³)
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Composition

SiO ₂	72	%
Al ₂ O ₃	2	%
Na ₂ O	15	%
BaO	1	%
CaO	8	%
ZnO	1	%

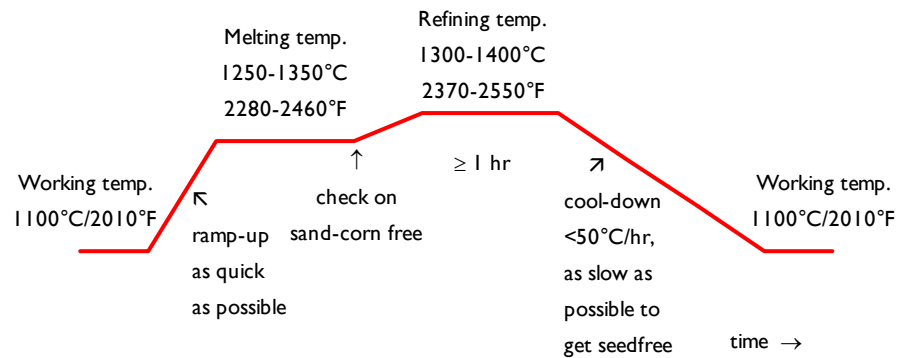
Optical properties

Index of refraction n _D .	λ = 589,3 nm	1,50
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For using PH4096 pellets we suggest the following working method;

Melting:

Suggested melting diagram

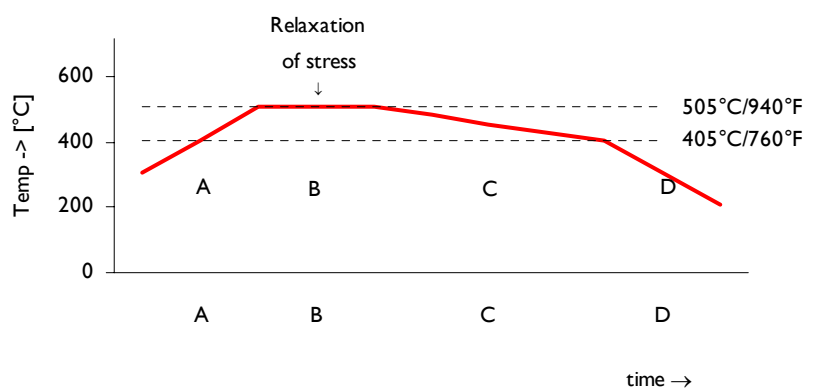


For starting we suggest to start charging with 10% of the pot content at each half hour. Later on you can optimize for your own production process.

Note; the melting and refining may differ due to melting-pot size and heating system. Since all systems have their own typical benefits, these instructions are only meant as directives. In case of problems we can support you with Technological assistance.

Annealing:

Annealing curve



The annealing rate largely depends on glass thickness;

thickness	0,5	1	5	10	15	cm
Stage A	400	100	4	1	0.5	°C/min
Stage B	15	15	15	15	15	minutes
Stage C	5	2.5	0.5	0.25	0.15	°C/min
Stage D	400	100	4	1	0.5	°C/min