



TESLA Holešovice,
akciová společnost PRAHA
Factory ÚSTÍ NAD LABEM

POLYCRYSTALLINE TRANSPARENT
CORUND

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TESLA Holešovice has been engaged in the production of polycrystalline transparent corundum for 20 years already. The tubes produced from this material are characterized by the high light-transmittance and at the same time by the resistance to sodium vapour influence at the high temperature and pressure respective. These properties make possible to use these tubes for the burner bodies in high-pressure sodium lamps. Also the high-quality properties of corundum material make possible further production possibilities as well as substrate production in electronics or setting in the high temperature technology.

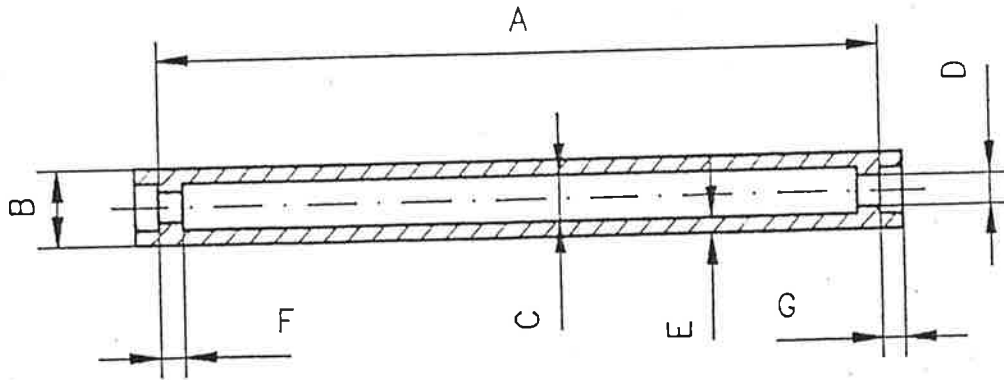
The presented offer concerning the tubes refers to our standard production program. The producer is able to accept, if needed and feasible, the requirements as to the incurrent performance and dimensions.

Polycrystalline transparent corund.

Propertis	Unit	
Colour	-	transparent White
Volume weight	g/cm ³	> 3,98
Porosity	-	gas-tight
Linear expansion coefficient	24 - 300 °C	$6,8 \cdot 10^{-6}$
	24 - 600 °C	$7,7 \cdot 10^{-6}$
	24 - 1 000 °C	$8,2 \cdot 10^{-6}$
	24 - 1 250 °C	$8,5 \cdot 10^{-6}$
Mean specific heat	J/kg . °C	760,3
Melting point	°C	> 2 000 °C
Sending strength	MPa	230
Compression strength	MPa	720
Modulus of elasticity	MPa	230 000
Relative permittivity		12,4
<i>Specific internal</i>		
resistance	Ohm . m	$1,36 \cdot 10^{14}$
resistance	Ohm	$4,43 \cdot 10^{15}$
Light - transmittance	%	96
Al ₂ O ₃	%	> 99,90
Modification	-	α corundum

Tubes from polycrystalline transparent corundum

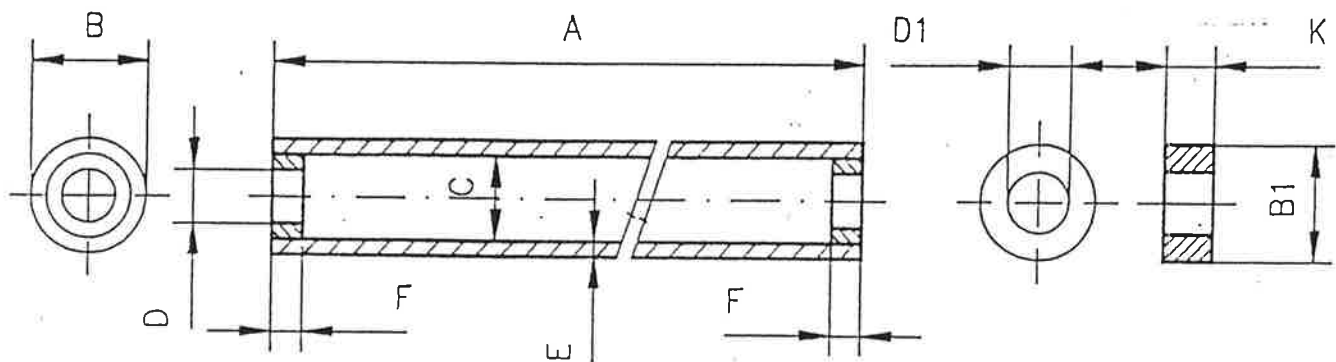
1. Tube type with overhanging ends



TYP	A	B	C	D	E	F	G
50 W	45±1	5,00	3,3±0,1	2,08±0,05	0,6±0,1	3±0,1	0,6±0,3
70 W	57±1	5,00	3,3±0,1	2,08±0,05	0,6±0,1	3±0,1	0,6±0,3
100 W	63±1	6,00	4,0±0,1	2,08±0,05	0,65±0,1	3±0,1	0,6±0,3
110 W	70±1	7,65	5,85±0,1	3,1±0,05	0,7±0,15	4±0,2	0,6±0,3
150 W	83±1	6,7	4,95±0,1	3,1±0,05	0,7±0,15	4±0,2	0,6±0,3
250 W	89±1	8,6	6,8±0,1	3,1±0,05	0,7±0,15	4±0,2	0,6±0,3
400 W	112,5±1	9,7	7,6±0,1	4,1±0,05	0,85±0,15	4±0,2	0,6±0,3

Tubes from polycrystalline transparent corundum

2. Tube type provided with additional distance rings



Additional dimension rings are feasible in transparent or opaque colour.

TYP	A	B	B1	C	D	D1	E	F	K
110 W	68±1	7,65	7,15±0,2	5,85±0,1	3,1±0,05	3,1±0,05	0,7±0,15	3±0,2	2±0,1
150 W	81,5±1	6,7	6,4±0,2	4,95±0,1	3,1±0,05	3,1±0,05	0,7±0,15	3±0,2	2±0,1
250 W	88 ±1	8,6	8,7±0,2	6,8±0,1	3,1±0,05	3,1±0,05	0,7±0,15	3±0,2	2±0,1
400 W	111±1	9,7	9,8±0,2	7,6±0,1	4,1±0,05	4,1±0,05	0,85±0,15	3±0,2	2±0,1

All dimensions are stated in mm.