INDUSTRIEARMATUREN

Mica discs in longitudinal shape with square ends

Mica discs with angular ends made of muscovite natural mica

Mica

USAGE

Mica discs for borosilicate glass rods according to DIN 7081 as reliable heat protection and to ensure functionality

Mica discs are an effective accessory for sight glass rods made of borosilicate glass according to DIN 7081. They serve as heat protection and as a protective layer between the process medium and the glass surface, especially in applications with aggressive media, superheated steam, or high temperatures.

In conjunction with MAXOS® borosilicate glass rods according to DIN 7081, operating temperatures of up to 320 °C are possible. The mica discs significantly prolong the service life of the sight glass plates.

The principle of operation is based on the high temperature and chemical resistance of natural muscovite mica. The mica disc is positioned between the process medium and the sight glass without significantly impairing optical transparency. This prevents the borosilicate glass from being damaged by erosive or corrosive media as well as from thermal shocks.

Operating conditions		
	Muskovite	Phlogopite
Temperature Resistance	500 °C	700 °C
Maximum allowable temperature in connection with MAXOS® borosilicate glass:	320 °C	320 °C
Pressure	depending on the sight glass rod	

MEASUREMENTS

Elongated Mica Discs 30 mm			Elongated Mica Discs 34 mm		
Length x Width L x W	Material Thickness S	Quality	Length x Width L x W	Material Thickness S	Quality
115 x 30 mm	0.15 - 0.20 mm	V4	115 x 34 mm	0.15 - 0.20 mm	V4
140 x 30 mm	0.15 - 0.20 mm	V4	140 x 34 mm	0.15 - 0.20 mm	V4
165 x 30 mm	0.15 - 0.20 mm	V4	165 x 34 mm	0.15 - 0.20 mm	V4
190 x 30 mm	0.15 - 0.20 mm	V4	190 x 34 mm	0.15 - 0.20 mm	V4
220 x 30 mm	0.15 - 0.20 mm	V4	220 x 34 mm	0.15 - 0.20 mm	V4
250 x 30 mm	0.15 - 0.20 mm	V4	250 x 34 mm	0.15 - 0.20 mm	V4
280 x 30 mm	0.15 - 0.20 mm	V4	280 x 34 mm	0.15 - 0.20 mm	V4
320 x 30 mm	0.15 - 0.20 mm	V4	320 x 34 mm	0.15 - 0.20 mm	V4
340 x 30 mm	0.15 - 0.20 mm	V4	340 x 34 mm	0.15 - 0.20 mm	V4
370 x 30 mm	0.15 - 0.20 mm	V4	370 x 34 mm	0.15 - 0.20 mm	V4
420 x 30 mm	0.15 - 0.20 mm	V4	420 x 34 mm	0.15 - 0.20 mm	V4

1) Special dimensions possible

Operating conditions:
Through production and quality testing in the process flow, the property values of the mica discs and the narrow dimensional tolerances are guaranteed.
With these excellent properties, mica discs can be used as additional safety designs, alongside sight glass plates, under extreme conditions.

The mica discs provide a reliable protection function, especially under high thermal and chemical loads. They serve as a barrier against aggressive media, extend the service life of the underlying sight glass rods, and thus reduce maintenance costs and downtime of facilities.

Moreover, precise processing ensures a uniform pressure distribution on the sight glass, which further increases mechanical stability. The flexible application possibilities of ACI mica discs make them an ideal addition for safety-critical applications in the chemical, pharmaceutical and food industries, as well as in power plants and facilities with high-temperature processes.

TECHNICAL INFORMATION

Technical information		
Expansion Coefficient (K^{-1})	90 x 10−7	135 x 10−7
Elastic Modulus (N/mm^2)	180 x 10^{-3}	170 x 10^{-3}
Thermal Conductivity (W/(m·K))	0.25 ... 0.75	~ 1.7

Other properties		
Radiation Resistance	Very good	Very good
Resistance to Organic Solvents	resistant	resistant
Acid Resistance	resistant (except hydrofluoric acid)	resistant (except hot acids)
Oil Resistance	resistant	resistant
Color	reddish, green, colorless, brown	amber, green

Properties	V-1	V-2	V-3	V-4	V-5	V-6	V-7	V-7A	V-8	V-9	V-10	V-10A
Crystallographic Discoloration	X	*d	*d	*d	*	*	*	*	*	*	*	*
Air Inclusion – Very Light	X	*	*	*	*	*	*	*	*	*	*	*
Air Inclusion – Light	X	X	*	*	*	*	*	*	*	*	*	*
Air Inclusion – Medium	X	X	X	*e	*f	*	*	*	*	*	*	*
Air Inclusion – Strong	X	X	X	X	X	*	*	*	*	*	*	*
Cloudy Spots	X	X	X	X	X	X	*g	*h	*	*	*	*
Mineral Spots – Light, Black and Red	X	X	X	X	X	*d	*d	*h	*	*	*	*
Mineral Spots – Black	X	X	X	X	X	X	X	*g	X	*d	*g	*h
Mineral Spots – Red	X	X	X	X	X	X	X	*g	X	X	*d	*
Mineral Spots – Black and Red	X	X	X	X	X	X	X	X	X	X	X	*
Green Spots (Plant-like)	X	X	X	X	*d	*g	*g	*	*	*	*	*
Clay Spots	X	X	X	X	X	*d	*g	*	X	X	*d	*d
Wavy – Nearly Flat	*	*	*	*	*	*	*	*	*	*	*	*
Wavy – Light	X	X	*	*	*	*	*	*	*	*	*	*
Wavy – Medium	X	X	X	*	*	*	*	*	*	*	*	*
Wavy – Heavy	X	X	X	X	X	*	*	*	X	X	X	*
Hardness – Hard	*	*	*	*	*	*	*	*	*	*	*	*
Hardness – Soft	X	X	X	X	X	X	S	*	X	X	X	S
Stones and Holes	X	X	X	X	X	X	X	X	X	X	X	X
Bumps	X	X	X	X	X	X	S	*g	X	X	X	X
Offset	X	X	X	X	X	X	X	X	X	X	X	X
Combs	X	X	X	X	X	X	S	*g	X	X	X	X
Cracks	X	X	X	X	X	X	X	X	X	X	X	X
Breaks	X	X	X	X	X	X	X	X	X	X	X	X
Hairline Cracks	X	X	X	X	X	X	X	X	X	X	X	X
Gaps	X	X	X	X	X	X	X	X	X	X	X	X
Layer Errors	X	X	X	X	X	X	X	X	X	X	X	X
Feather Gaps	X	X	X	X	X	X	X	*	X	X	X	X
Abrasion	X	X	X	X	X	X	S	*	X	*	*	*

Legend	
Symbol	Meaning
*	Permitted
X	Prohibited
S	Only permitted if specified
a	Few and small, covering a quarter of the usable area
b	Covering half of the usable area
c	Very dense
d	Light
e	Covers two thirds of the area
f	Uniform
g	Medium-heavy
h	Heavy

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QUICK OVERVIEW

- heat resistant up to 500 °C
- for liquid media
- for gaseous media
- up to 500 mm in length
- custom designs possible
- protection against aggressive media

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