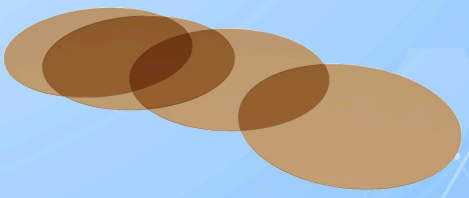
INDUSTRIEARMATUREN

Round mica discs

Round mica discs made of muscovite natural mica

Mica



USAGE

Mica discs for borosilicate glass according to DIN 7080 as reliable heat protection and to ensure functionality

Mica discs are an effective accessory for sight glass plates made of borosilicate glass according to DIN 7080. They serve as heat protection and a protective layer between the process medium and the glass surface, especially in applications with aggressive media, superheated steam, or high temperatures.

In connection with MAXOS® borosilicate glass plates according to DIN 7080, operating temperatures of up to 320 °C are achievable. The mica discs significantly extend 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 by thermal shocks.

Operating conditions		
	Mica	Phlogopite
Thermal stability	500 °C	700 °C
Maximum permissible temperature in conjunction with MAXOS® borosilicate glass:	320 °C	320 °C
Pressure	depends on the viewing glass plate	

MEASUREMENTS

Round Mica Discs		
Diameter[1] D	Material Thickness S	Quality
Ø 42 mm	0.15 - 0.20 mm	V4
Ø 45 mm	0.15 - 0.20 mm	V4
Ø 63 mm	0.15 - 0.20 mm	V4
Ø 80 mm	0.15 - 0.20 mm	V4
Ø 100 mm	0.15 - 0.20 mm	V4
Ø 125 mm	0.15 - 0.20 mm	V4
Ø 150 mm	0.15 - 0.20 mm	V4
Ø 175 mm	0.15 - 0.20 mm	V4
Ø 200 mm	0.15 - 0.20 mm	V4
Ø 250 mm	0.15 - 0.20 mm	V4

1) Special dimensions possible

Operating conditions:

Through production and quality inspections during the process, the property values of the Mica discs and the narrow tolerances are guaranteed. With these excellent properties, Mica discs can be used as an additional safety version for sight glass plates under extreme conditions.

The Mica discs provide reliable protection particularly under high thermal and chemical loads. They act as a barrier against aggressive media, extend the lifespan of the underlying sight glass plates, and thus reduce maintenance costs and downtime of systems.

Moreover, the precise processing ensures an even pressure distribution on the sight glass, which additionally increases mechanical stability. The flexible application possibilities of the ACI-Mica discs make them an ideal complement 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		
Coefficient of expansion (K–¹)	90 x 10–7	135 x 10–7
Elasticity modulus (N/mm²)	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 coloring	X	*d	*d	*d	*	*	*	*	*	*	*	*
Air inclusions – Very light	X	*	*	*	*	*	*	*	*	*	*	*
Air inclusions – Light	X	X	*	*	*	*	*	*	*	*	*	*
Air inclusions – Medium	X	X	X	*e	*f	*	*	*	*	*	*	*
Air inclusions – 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
Splits	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
Layering Splits	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	Not permitted
S	Only permitted if specified
a	Little and small, on a quarter of the usable area
b	On half of the usable area
c	Very dense
d	Light
e	On two thirds of the area
f	Evenly distributed
g	Medium-heavy
h	Heavy

QUICK OVERVIEW

heat resistant up to 320 °C

for liquid media

for gaseous media

up to Ø 400 mm

custom designs possible

protection against aggressive media

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