

## General

METAPOR<sup>®</sup> CE 100 White is an extremely fine porous material with a white non-reflexive surface and is easily workable. It has proven to be very useful in silicon-wafer production, also due to its strong surface hardness and precision milling capability. Flatness of vacuum chuck surfaces less than 5 micron.



Users report the following advantages:

- High Definition and Accuracy
- Faster Air Evacuation
- Improved Surface Quality
- Reduced Machine Time
- Trapped Air Elimination
- Improved Mold Detail

METAPOR<sup>®</sup> CE 100 White may also be used in vacuum clamping devices. Even clamping is attained without the need for drilling. Since there are no drill holes or channels, even sensitive parts show no deformation. Static jam while ejecting can be eliminated using compressed air, which creates a smooth and even air cushion.

## Physical properties at 67°F (20 °C)

Property	Value (Eng)	Value (SI)
<b>Color</b>	White	White
<b>Density</b>	106.1 lb/ft <sup>3</sup>	1.7 g/cm <sup>3</sup>
<b>Hardness Shore D</b>	89	89
<b>Flexural strength</b>	4133 psi	28.5 Mpa
<b>Flexural Modulus</b>	2102 ksi	14,498 Mpa
<b>Impact strength</b>	0.475 ft-lb/in <sup>2</sup>	1.0 kJ/m <sup>2</sup>
<b>Coefficient of thermal expansion 25 °C -125°C (77 - 257 °F)</b>	14 -16 x 10 <sup>-6</sup> in/in/°F	25 - 30 x 10 <sup>-6</sup> mm/mm/°C
<b>Thermal conductivity: at 100°C (212 °F)</b>	0.86 BTU/ hr-ft-°F	1.6 W / m-°C
<b>Martens Dimensional Stability</b>	212 °F	100 °C
<b>Total porosity (by volume)</b>	20 %	20 %

### Available Sizes

METAPOR® CE 100 White is manufactured in blocks of 500 x 500 x 400 mm, (~20" x 20" x 16"), and is cut into slabs of any required thickness. After the cutting process, the air permeability of the slab surface is reduced due to partial closure of the pores. It is essential to mill both surfaces of the slab by cutting off approx. 0.25 mm, (0.010"), providing complete air permeability.

### Storage

Store dry and flat to protect against jolts, impacts and bowing. Avoid contact with grease and fluids.

### Machining

The machining properties of METAPOR® CE 100 White are excellent and are comparable with rapid machinable aluminium. METAPOR® CE 100 White **must be machined dry and should not be in contact with any cooling liquids**. In order to avoid any closure of pores, appropriate aluminium cutting tools must be used.

### Grinding/Polishing

Grinding and polishing of the machined surfaces can be made by hand or with a vibrating grinder. Use corundum paper with grains of 400 / 600 / 1200 in ascending order. **METAPOR® CE 100 White has to be polished dry and without any polishing paste!**

### Air Flow Rates

The numbers are average values for calculating air consumption for overpressure or under pressure applications. Specification is in liters per minute per cm<sup>2</sup>.

Pressure difference in bar (psi)	Plate thickness (mm)				
	10	15	20	25	30
0.2 (2.9)	0.42	0.35	0.31	0.26	0.23
0.3 (4.4)	0.53	0.44	0.38	0.34	0.30
0.4 (5.8)	0.65	0.55	0.48	0.42	0.37
0.5 (7.3)	0.77	0.65	0.57	0.51	0.46
0.6 (8.8)	0.89	0.75	0.67	0.59	0.54
0.7 (10.3)	1.01	0.87	0.77	0.67	0.62
0.8 (11.6)	1.15	0.99	0.87	0.79	0.71
0.9 (13.1)	1.29	1.12	0.98	0.88	0.80
1.0 (14.5)	1.42	1.22	1.08	0.96	0.90
2.0 (29.0)	2.53	2.20	1.97	1.79	1.65
3.0 (43.5)	3.45	3.02	2.72	2.48	2.28
4.0 (58.0)	4.25	3.73	3.37	3.08	2.85
5.0 (72.5)	4.92	4.34	3.93	3.60	3.34
6.0 (87.1)	5.48	4.84	4.39	4.04	3.75