# Porous Ceramics – Property Chart

As of May, 2021

| | | Alumina Type | | | | | | SiC Type | |
|---|---|---|---|---|---|---|---|---|---|
| | | AZP50 | AZP60 | AZP60B | AZPW40 | AZPWB40 | AZPV60 | AZPS40 | AZPVS60 |
| Porosity | % | 50 | 60 | 73 | 40 | 35 | 60 | 40 | 60 |
| Pore diameter | μm | 5~40 | 5~40 | 5~40 | 50~100 | 50~200 | 20~40 | 5~30 | 10~30 |
| Bulk density | $g/cm^3$ | 1.82 | 1.57 | 1.04 | 2.56 | 2.48 | 1.54 | 1.9 | 1.32 |
| Air penetration rate | $(\times 10^{-13} m^2)$ | 0.8 | 5.73 | - | 100 | 270 | 200 | 6.1 | 160 |
| Purity | % | 96 | 96 | - | 95 | 90 | * | 98 | * |
| Flexural strength | MPa | 60 | 35 | 30 | 76 | 22 | 28 | 80 | 4 |
| Dielectric constant | 1MHz | - | - | - | 4.1 | | 3.8 | - | 35.8 |
| Thermal conductivity | W/(m·K) | - | - | - | 3 | 5 | 13.4 | 70 | 70.4 |
| Thermal expansion coefficient | $\times 10^{-6}$ (RT-800℃) | - | - | - | 7.6 (RT-700℃) | 7.6 | 8 | 4.4 | 4.4 |
| Color | - | White | White | Black | White | Black | White | Gray | Black |
| Application | Weight reduction | ✓ | ✓ | ✓ | N/A | ✓ | ✓ | N/A | ✓ |
| | Heat insulation | ✓ | ✓ | ✓ | N/A | ✓ | N/A | N/A | N/A |
| | Vacuum Chuck | N/A | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Filter, Rectification (Air/Fluid), Spraying | N/A | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Features | Light, Heat insulation | Fine surface, able to grip films and thin wafers. | Suitable for image processing and anti-reflection. | Large pore and good air penetration suitable for chucks and bubblers | Suitable for image processing and anti-reflection. | Larger pre and better air penetration than AZP60. | Similar to AZP60 with higher flexural strength. Polished as required. | SiC version of AZPV60 suitable for setters to avoid reaction with works. |

※ The above values are just for refeence, and not guaranteed.

※ The purity of AZPV60 and AZPVS60 is under measurement.

※ AZPW45 is the discontinued material and no longer available.

※ ✓ = Applicable　　N/A= Not Available

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