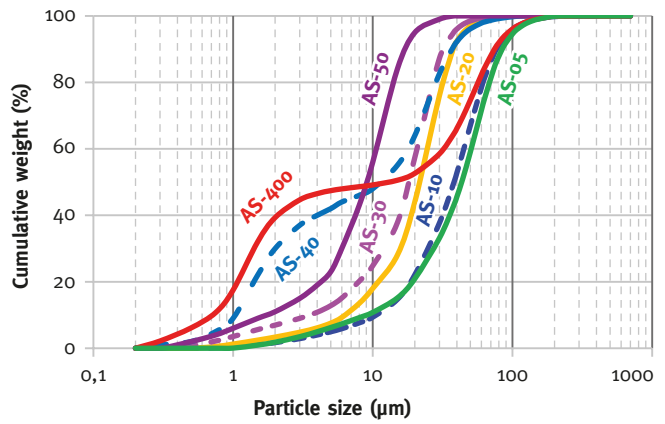
# AS SERIES

## Typical properties of common grades

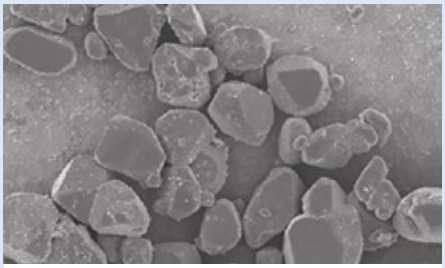
| | | | AS-10 | AS-20 | AS-30 | AS-40 | AS-50 | AS-400 |
|---|---|---|---|---|---|---|---|---|
| Chemical Composition | L.O.I※1 | % | 0.05 | 0.07 | 0.09 | 0.13 | 0.18 | 0.09 |
| | $Fe_2O_3$ | % | 0.04 | 0.06 | 0.07 | 0.06 | 0.05 | 0.02 |
| | $SiO_2$ | % | 0.05 | 0.06 | 0.06 | 0.06 | 0.06 | 0.03 |
| | $Na_2O$ | % | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 |
| | $Na^+$※2 | ppm | 3 | 3 | 3 | 50 | 7 | 32 |
| | $Cl^-$※2 | ppm | 1 | 1 | 1 | 2 | 1 | 1 |
| | $Al_2O_3$ | % | 99.83 | 99.78 | 99.75 | 99.71 | 99.68 | 99.87 |
| Mean Particle Size ($d_{50}$)※3 | | μm | 39 | 22 | 18 | 12 | 9 | 13 |
| Top cut size | | μm | 105 | 75 | 75 (or 45) | - | 75 (or 45) | - |
| BET Specific Surface area | | $m^2/g$ | 0.5 | 0.8 | 1.0 | 1.2 | 1.9 | 1.2 |
| Bulk Density | Loose | $g/cm^3$ | 1.8 | 1.8 | 1.6 | 1.5 | 1.5 | 1.4 |
| | Tap | $g/cm^3$ | 2.4 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 |
| Electric Conductivity※4 | | μS/cm | 3 | 4 | 5 | 31 | 11 | 29 |
| Viscosity (Pas) | Epoxy resin (250PHR) | | 95 | 110 | 135 | 102 | 130 | - |
| | Silicone resin (600PHR) | | 124 | 114 | 128 | 106 | 150 | 83 |

※1 Loss On Ignition, ※2 Warm water extraction (100°C, 2Hr), ※3 LASER DIFFRACTION AND SCATTERING METHOD ANALYZER
※4 20g/100ml purified water, ※The data shown above are representative figures. They are not guaranteed values.

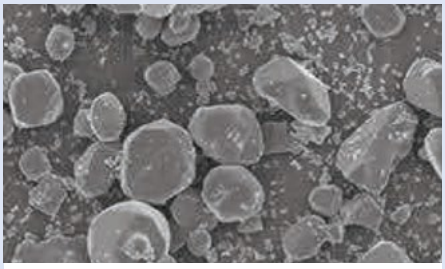
## Particle Size Distribution




## SEM images



AS-10



AS-40

## Features and Advantages

- Large particle sizes and broad particle size distributions allow for a high filling density in various resins.
- Roundish shape makes AS Series suitable as a thermal filler with lower viscosity.
- Roundish shape also means a large contact area between particles, increasing thermal conductivity of the compound.
- Bimodal AS-400 is a grade specifically designed for achieving higher filling rates in resins.