

Magnesium Compounds for Thermal Conductive filler.

Advantages:

- Magnesium Oxide "WR Series" has High Thermal Conductivity & high water / Acid Resistance by Special Surface Treatment.
- Synthetic Magnesite "MAGTHERMO" has High Thermal Conductivity, Softness etc.
- Reasonable price Compared to Nitride

	Magnesium Oxide Coated with Water Resistant "WR Series"		
	SL-WR	P-WR	PSF-WR
Average Particle Size (μm)	9.8	3.2	1
Specific Surface area m ² /g)	5	8.8	6.6
MgO (%)	97	96.3	97.5
Advantages	High Thermal Conductivity, Good Water Resistivity with Surface Coating.		

Generally plastic have good properties for electrical application like lightness & Insulation but thermal conductivity is not very high of 0.1 ~ 0.3 W/m.K. Recently electrical Components become smaller, thinner & Higher-integrated.

To reduce Heat-Buildup, Various fillers such as Almina (Aluminium Oxide), Silica (Silicon Oxide) & Boron Nitride are used as thermal conductivity, softness & cost.

	Feature				Performance Comparison				
	Chemical Formula	Specific Gravity	Thermal Conductivity (W/m.K)	Mors Hardness	Thermal Conductivity	Hardness	Water resistant	Acid Resistant	Cost
Magnesium Oxide	MgO	3.6	45-60	6	○	△	X	X	○
Magnesium Carbonate	MgCO ₃	3	15	3.5	○	○		○	○
Magnesium Hydroxide	Mg(OH) ₂	2.4	8	2.5	△			X	○
Silicon Oxide (Fused Silica)	SiO ₂	2.6	2	6	X	△			○
Aluminium Oxide	Al ₂ O ₃	3.9	20-35	9	○	X			△
Hexagonal Boron Nitride	BN	2.3	30-50	2	○		○	○	X
Silicon Nitride	Si ₃ N ₄	3.4	20-90	8	○	X		○	X

