

Denka Releases Advanced Ceramics, "Denka Spherical Magnesia" for 5G and xEV — New thermal solution for strengthening the environmental and energy sectors—



Spherical Magnesia

Denka Company Limited (headquarters: Tokyo, Japan; President: Manabu Yamamoto; hereinafter, "Denka") has launched the advanced ceramic, Denka Spherical Magnesia, to provide a new thermal solution to $5G^1$ and xEV^2 markets. Denka will continue to improve its activities in the environmental and energy sectors and contribute to a cleaner and safer society as per the Denka's Sustainable Development Goals.

5G is the next generation of infrastructure of telecommunications utilized for smartphones, as well as in devices for healthcare and disaster prevention and xEV is another key technology helping to reduce greenhouse gas emissions. While both of these technologies are significantly important for the realization of a sustainable society, 5G increases the amount and speed of data traffic, and xEV requires high performance electronic components which generate higher heat. Therefore the demand for superior thermal conductivities and higher reliabilities are significantly increasing.

Denka Spherical Magnesia, with approximately 1.5 times higher thermal conductivities compared to Alumina, delivers the solution to the 5G and xEV applications. Using Denka's core technologies including the higher temperature firing, nitriding reactions and controlling its particle sizes which have been developed since its foundation in 1915, Denka has been supplying advanced ceramics, such as the fused spherical silica, the silicon nitride, the boron nitride (BN), the spherical alumina and the phosphor to high-tech markets, widely used in semiconductors, electronic devices, wind power generation, telecommunication bases, automobiles and more.

As part of the evolution of Denka's business portfolio and the acceleration of the growth of specialty businesses stated in the Denka Value-Up management plan, Denka has been focusing on the environmental and energy sectors. In addition to Spherical Magnesia, Denka is also working on the development of new ceramics such as low loss tangent silica and high dielectric filler low dielectric materials (LDMs) for insulation, effective in the reduction of transmission loss in 5G devices, LCP film and others. Moreover, Denka aims to provide stable supply of ultra-high purity acetylene black for lithium-ion batteries, which is expected to see a higher demand in the near future thus helping to build a cleaner environment and a safer society.

Based on "SDGs" as our "Signposts", Denka will continue to work to develop advanced products incorporating its original technologies in an effort to stand as a company truly needed by society.

¹ 5G (5th Generation): The 5th generation mobile communication systems.

 2 xEV: An umbrella term encompassing battery electric vehicles (BEV), hybrid electric vehicles (HEV), plug-in hybrid electric vehicles (PHEV or PEV) and fuel cell electric vehicles (FCEV or FCV).

About Denka:

Denka is a chemical manufacturer headquartered in Chuo-ku, Tokyo. The company specializes in developing business activities on a global scale across a wide range of fields, from inorganic and organic chemicals, to electronic materials and pharmaceuticals. Founded in 1915, Denka has steadily continued to develop and manufacture products that contribute to the development of society by fully utilizing its unique concepts and technological capabilities. Upholding its corporate slogan, "Possibility of chemistry," the company and its president, Manabu Yamamoto, are committed to contributing to the sound development of the society while sincerely tackling the challenges that the society is now confronting.

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