# kwark® Infrared-Blocker

## Product Data Sheet

Kwark® IRB (Infrared-Blocker) is a high performance silica aerogel material developed and produced by Enersens. This Kwark® is enhanced by an infrared opacifier allowing to reflect the infrared radiation. Kwark® IRB shows exceptional insulating properties at ambient temperature, but even more significantly at high temperature. This innovative filler is ideal for those seeking high thermal performances and high-value-added products such as durable, lightweight, breathable, inert and sound attenuation products in industrial applications, but also for transport and OEM applications.

## Highest insulating performance, especially at high temperature

### Advantages

**Low thermal conductivity**

**Infrared Reflection**

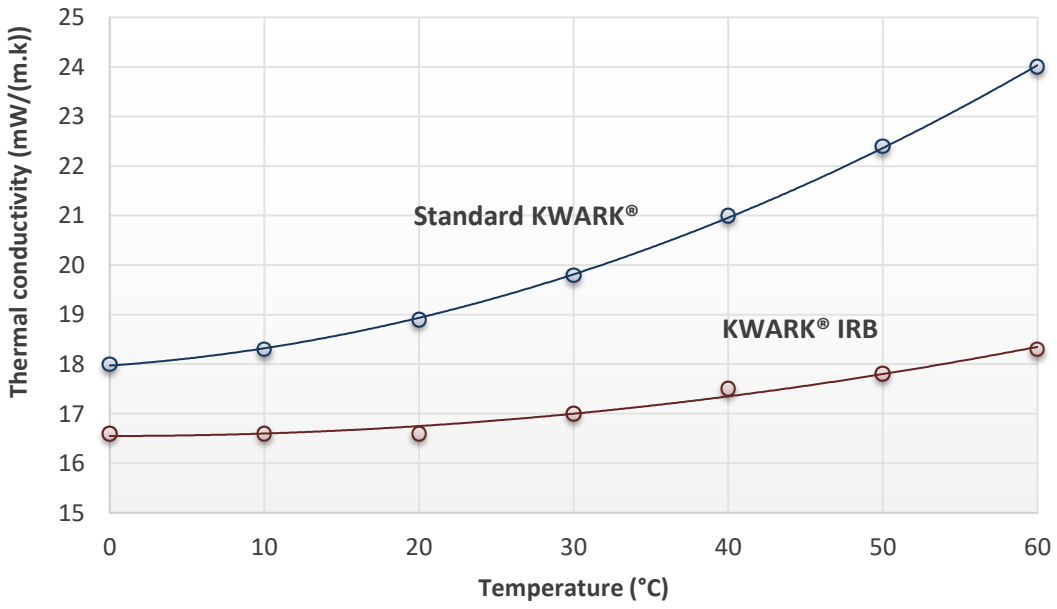
**Hydrophobic and breathable**

**Lightweight**

**Good acoustic insulation**

**Non-flammable and durable material**

## Thermal Conductivity Performance of Granular Bed



# Main characteristics

| | |
|---|---|
| **Thermal conductivity (intrinsic) at $P_{atm}$** | 12 mW/m.K$^{-1}$ (at 20°C) |
| **Operating temperature (to keep hydrophobicity)** | -195°C to 450°C |
| **Operating temperature (to keep insulation in dry atmosphere)** | -195°C to 800°C |
| **Particle size range** | From 10 to 3500 µm |
| **Apparent density** | 40 to 90 kg/m$^3$ |
| **Acoustic property (500-6400 Hz frequency)** | + 50% of absorption coefficient |
| **Surface chemistry** | Hydrophobic - Corrosion resistant |
| **Pores diameter** | 5 to 12 nm |
| **Mercury porosity** | 90 to 98% |
| **Specific surface ($N_2$ BET)** | 750 to 950 m$^2$/g |
| **pH stability range** | 3.0 to 6.5 * |
| **Minimum ignition temperature** | 470°C |
| **Resistivity** | 5.9x10$^{13}$ Ω.m |
| **Emissivity** | 0.93 |

* for values out of range contact us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