

Nordkalk Wollastonite – Plastic Applications



Wollastonite CaSiO_3

Wollastonite is a natural calcium silicate mineral with the molecular formula CaSiO_3 . It is the only naturally occurring white and acicular mineral.

Wollastonite is available with different particle size, aspect ratio (L/D), and surface treatment for different plastic applications.

Wollastonite is used as functional filler in various thermoplastic and thermoset compounds such as polyamide (6 & 6.6), polypropylene, polycarbonate, polyurethane and epoxy compounds.

Typical end uses for wollastonite filled compounds

Most of the wollastonite filled compounds are used by the automotive, household appliance and electric industry. Typical applications include automotive interior, exterior & underhood components and electrical insulation materials.

General benefits of wollastonite in plastic applications

Needle shape particle structure

- Increased flexural strength and modulus
- Excellent impact resistance
- Increased HDT
- Good dimensional stability

Hardness

- High scratch and mar resistance

Whiteness

- Decreased need for pigmentation in bright colours

Surface treatment

- Improved adhesion between the filler and the polymer matrix
- Enhanced dispersivity

Low level of impurities

- Excellent electrical insulation properties



Microscopic picture from acicular wollastonite powder

The Properties of Wollastonite

Colour	White
Brightness	85 - 93
pH	9,9
Particle Shape	Needles (L/D = 3 – 20:1)
Hardness	4-5 Mohs
Oil Absorption	15 – 45 g/100g
Density	2,94 g/cm ³
Bulk Density	0,90 – 0,25 g/cm ³
Refractive Index	1,63