



Technical Data Sheet for Ceramic Filler

mRefCem

Description:

mRefCem is a fine powder material produced by the milling of spent refractories originating from the cement industry. The carbon footprint of products can be reduced by using this material from a secondary source, replacing conventional fillers. The material can be functionalised with coupling agents. This material has been developed under the Horizon Project ReSoURCE (grant agreement number: 101058310; <https://www.project-resource.eu/>).

Benefits:

- Reduced carbon footprint through reuse of waste material.

Example applications

- Paints and coatings
- Adhesives and sealants
- Thermoplastic compounding

Physical properties:

Form	Fine powder
Colour	Cream (L: 84.70; a: 0.85; b: 10.73)
Average particle size, D_{50} / μm	6
Particles > 20 μm size / %	0.12
Bulk density / gcm^{-3}	0.6
Skeletal density / gcm^{-3}	2.9
Residual moisture content / %	0.35
Specific surface area (BET, N_2 , 77K) / m^2g^{-1}	9
Thermogravimetric analysis loss (1000 °C, air) / %	< 15

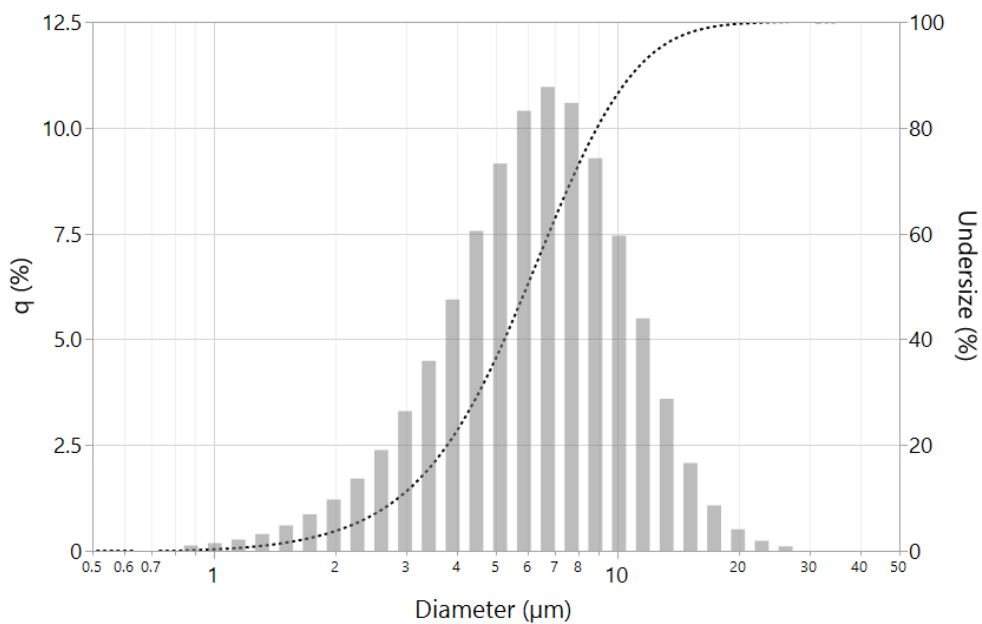
Mineral composition:

Mineral	Content (%)	Lit. Hardness (Mohs)
Periclase	55 - 65	6
Brucite	20 - 25	2.5 - 3
Calcite	5 - 10	3
Spinel	5 - 10	8

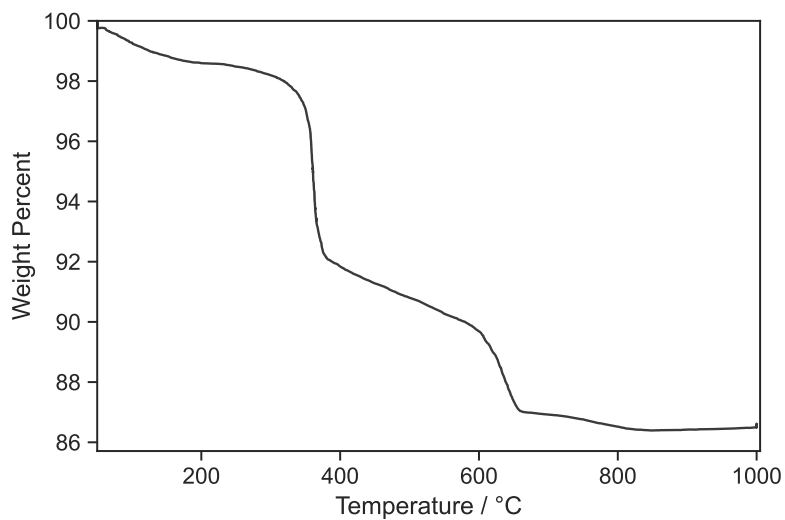


Funded by the European Union

Particle size distribution:



TGA (air):



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