



Geothermal Colloidal Silica

Natural.
Sustainable.
High Quality.

Experience a world-first in the commercial production of colloidal silica from natural geothermal water.

geo40™



What is geothermal colloidal silica?

A component of the earth's crust, silica is one of the most abundant minerals in the world. It is more commonly known as silicon dioxide (SiO₂).

Geothermal fluid is naturally occurring water that is heated deep under the earth by geothermal energy. The hot geothermal water dissolves up naturally occurring minerals, including silica, in the earth's crust.

Geo40™ has developed a unique technology for extracting this naturally occurring silica from geothermal fluids, turning it into colloidal silica. This is a world-first in the commercially produced colloidal silica market, setting a new benchmark for environmental sustainability.

Geo40's naturally derived colloidal silica is high in purity and quality and can be used interchangeably with industrially produced equivalents.



Geo40's first Silica Extraction Plant at Ohaaki Power Station in New Zealand

An essential ingredient.

Geo40™'s naturally produced colloidal silica can be used to replace industrially produced colloidal silica products. Our products have been tested in most applications.



Paper-making

Where colloidal silica is used to enhance drainage and retention of the wood fibres to speed up production and increase the strength of the paper.



Precision investment casting

Where colloidal silica is used as a binder for the moulds used to cast high quality precision metal products.



Paint

Where colloidal silica enhances anti-soiling properties, improves hardness and pigment dispersion and can reduce the use of volatile organic components (VOCs). Paint is therefore easier to apply, looks good, lasts longer and is more environmentally friendly.



Concrete

Where colloidal silica works as a stabiliser and strength enhancer. It can also speed up setting time.



Refractory fibre bonding

Where colloidal silica is used as a binder in the production of refractory components that are used in high temperature applications.



Striving for a carbon-neutral product.

Sustainability is an integral part of who we are and how we do business at Geo40™.

Naturally derived from New Zealand's geothermal fields, Geo40 colloidal silica is consistently high quality and carries a very low carbon footprint. We believe it's the 'greenest' colloidal silica on the market.

Here's why:

We extract our silica raw material from geothermal water that has been brought to the surface to be used in power generation.

- Located adjacent to the geothermal power plant, our extraction plant separates and harvests naturally dissolved silica from the geothermal fluid. Nature has done all the hard work for us, as opposed to industrially produced colloidal silica where large amounts of energy are required to get the silica into a soluble form.
- Our plant then refines the silica concentrate into a range of colloid sizes and concentrations.
- High quality product is shipped directly from our site to the customer.

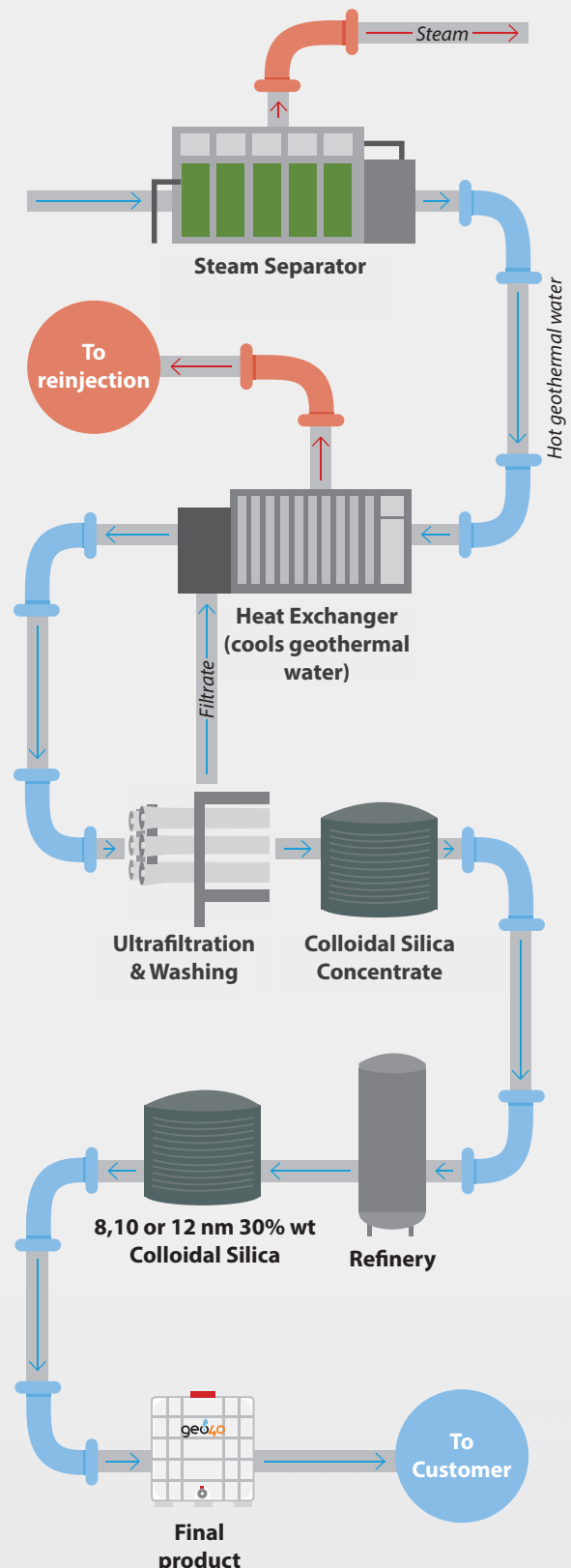
Our process enhances renewable power generation.

Currently, silica build-up in pipelines and reinjection wells costs geothermal power producers millions of dollars every year in maintenance and lost generation efficiency.

The Geo40 silica extraction process takes the silica out of the geothermal fluids, prolonging the life of pipelines and reinjection wells – increasing the efficiency of this clean, renewable energy source. An additional benefit is that more renewable green power can be produced from the geothermal fluid once the silica has been removed.

Users of Geo40's naturally produced colloidal silica will be able to replace their use of the industrially produced equivalent, demonstrating real sustainability in their business at a very competitive price.

The Silica Extraction Process



Work with a world-first product.

Geo40™ colloidal silica is a world-first on the commercial market, and we can make it to suit most applications.

- ✓ Varying surface areas (200-550 m²/g)
- ✓ Particle sizes (5-14 nm)
- ✓ Stabilising ions (Na, NH₃, K, Li)
- ✓ High and low pH variants

Product is available in bulk or packaged in IBC's (totes) and drums.

Get in touch...

To find out more about Geo40 colloidal silica or to place an order, please contact our sales team.

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