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Ultra Fine (Sub 38 Micron) Size Analysis

Innovative technologies for efficient resource processing solutions

CleanProTech have developed a new laboratory method for analysing the particle size distribution of ultrafine particles.
This includes coal, reject, magnetite and other minerals.

In current laboratory particle size analysis, the finest sieve size used is 38 microns. Under this size, cyclosizers and laser sizers are often used to provide information on particle size distribution.
It must be noted that major issues can arise when using these methods to analyse for particle size distribution, giving large errors.

Along with these concerns, other sizing methods do not allow you to obtain a physical sample for each set size fraction for further analysis. This is useful to perform assays on the material such as ash, particle density, trace element testing and many others.

Due to this, CleanProTech decided to extend the current working range for sieve analysis. It seems that the only reason for using these other methods is that 'standard' laboratory sieve sizing techniques currently only go down to 38 microns.

CleanProTech has successfully been performing 20 micron sieve anlysis for many years at our laboratory and have recently added a 10 micron sieve analysis to our range of regular sizing services.
We also have the option to perform sieve size analysis at 5, 3 and 2 microns.

Benefits include:

- Ability to obtain a physical sample at each size fraction.
- Larger sample mass can be used, giving sufficient mass for further analysis.
- As it is a physical sizing method, differences in particle density and material properties have no effect on the procedure, unlike commonly used centrifugal classifying and laser sizing methods.

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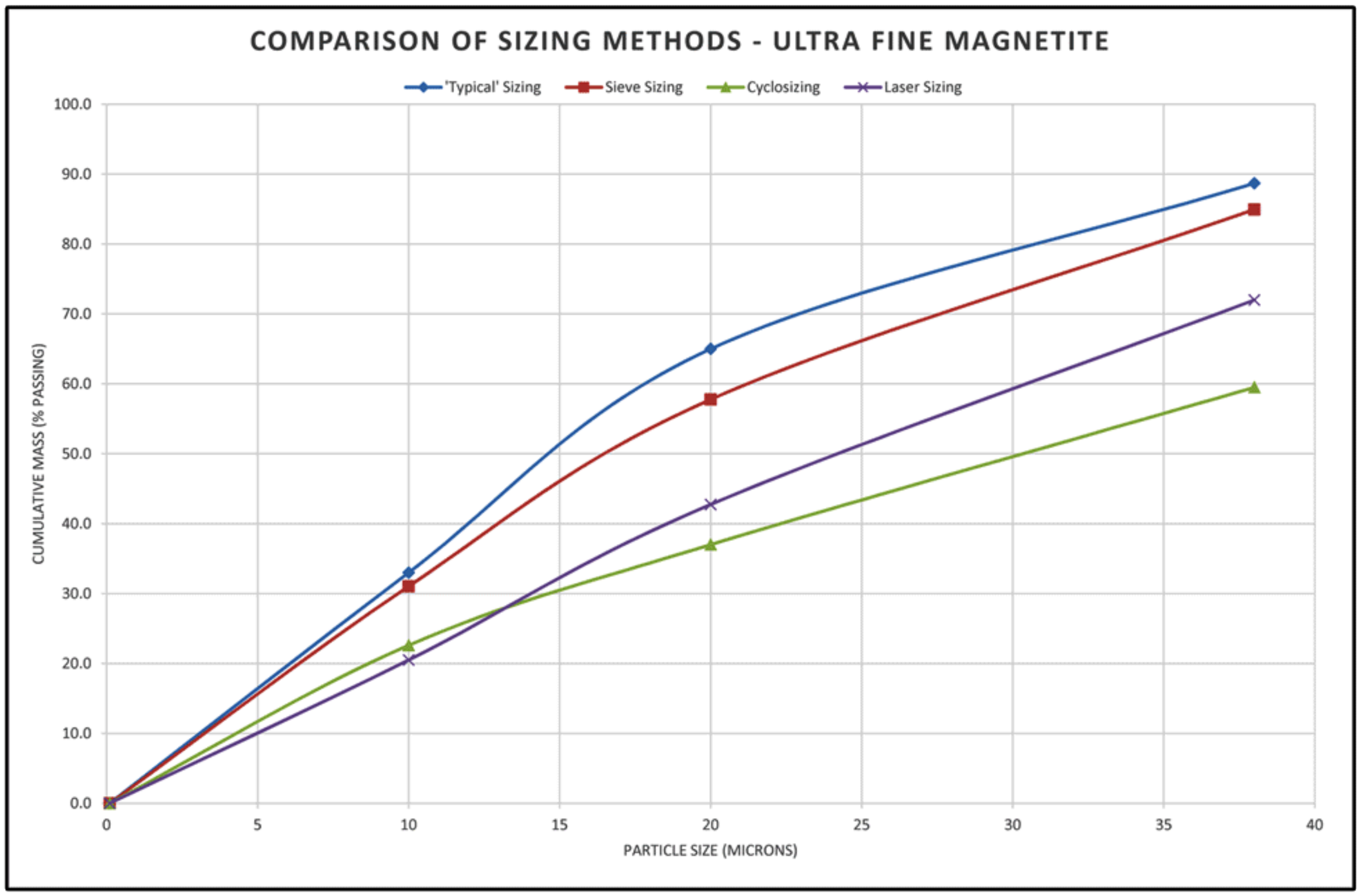

The above graph shows a sizing comparison of CleanProTech's ultra fine sizing versus conventional sizing methods such as centrifugal classification and laser sizing.

Table outlining prices for each size fraction.

CleanProTech have the required equipment to produce representative subdivision of samples either before the initial sizing stage and/or in between sizing stages to ensure the correct amount of material is being analysed in each size fraction. This can be used to reduce the amount of material being processed if there is a large proportion of undersize material.

*Larger amounts of retained mass available on request. Contact us for further pricing.

Sieve Size		Analysis Cost	Retained
		Sizing	Mass Limit
(micron)	(mm)	%, mass	(g)
			*
1000	1.000	$20	1000
500	0.500	$20	1000
250	0.250	$20	1000
125	0.125	$20	1000
63	0.063	$30	1000
45	0.045	$40	1000
38	0.038	$60	500
20	0.020	$100	200
10	0.010	$450	10
5	0.005	$450	10
3	0.003	$450	10
2	0.002	$450	10
-2	-0.002		5

Other services available from CleanProTech for laboratory analysis include;
Ultimate Flotation Testing
Jameson cell flotation testing - small and large scale available.
Denver cell flotation testing
Particle density analysis
Solids concentration testing, on both mass and volumetric basis.
Moisture and ash analysis.

and a range of equipment to measure, monitor and control fines circuits is avaiable.

For more information contact Clean Process Technologies on
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