

Microblend

Solutions Inc.

Technology

Frequently Asked Question:
What is the relationship between particle size and Blaine fineness?

Attached (figure 1) is a typical fine to microfine particle size distribution. The distribution has the highest frequency of particles in the 4 to 10 um range. The distribution also has very few particles less than 1 um in diameter.

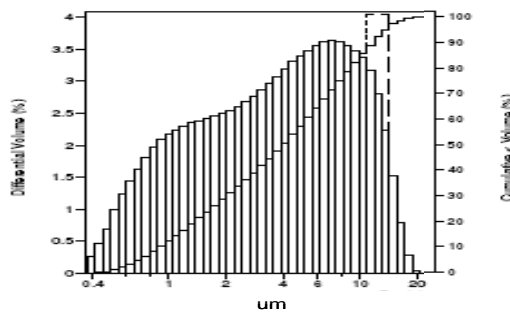


Figure 1 base Particle size

This particle size can be correlated to Blaine fineness by first looking at the surface area (figure 2) of the same mix.

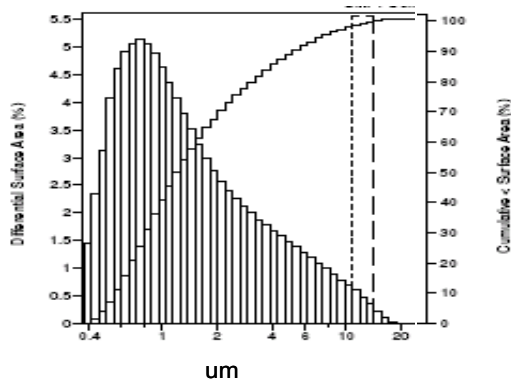


Figure 2 surface area of base

This surface area distribution demonstrates that the same particle size distribution has a highest surface area in the 1 um region.



Interesting fact

As figure 3 demonstrates the Surface area is highly weighted to the fine fractions of the Particle size distribution

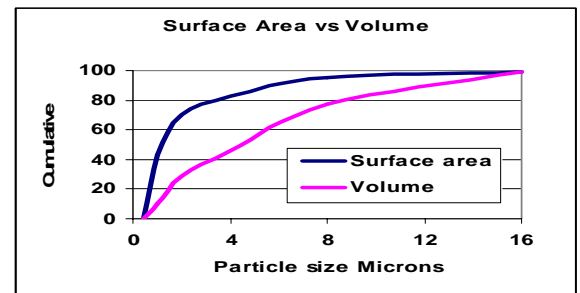
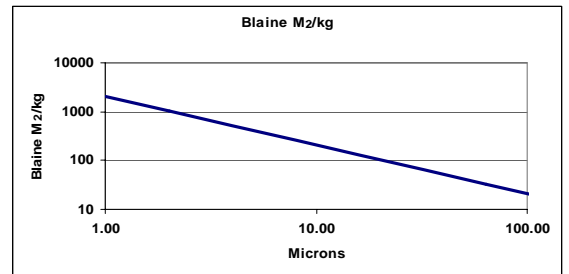


Figure 3: Surface area vs Volume fractions

Using the standard sphere calculation of $\frac{4}{3} \pi r^3$ and πd^2 as well as particle density Figure 4 demonstrates particle size vs a specific particle size. Using this calculation the calculated Blaine of Figure 1 is 952 M2/kg vs the actual measured Blaine of 985 M2/kg



Coming Up

- Free Water vs Borehole Deviation
- Rheometer viscosity vs Funnel viscosity
- Tradeshow/Conference link: <http://www.gulfpub.com>

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