

矿石与石英、黏土的混合物

行业:	Geology / mineralogy
进料尺寸:	< 2 mm
最终精度:	< 100 µm
样品量:	1-2 g
研磨建议:	Desired Mini-Mill PULVERISETTE 23 is capable to comminute the samples. By dry grinding, only a certain level of fineness can be reached. For best grinding results, grinding in suspension is recommended.



MINI-MILL PULVERISETTE 23

speed setting: 50 Hz

10 ml grinding bowl made of tempered steel

+ 1x grinding ball with 15 mm Ø made of tempered steel

Feed quantity:	2 g of sample 2460
Feed Size:	< 1 mm
Grinding time:	3 min
Final fineness:	d99 < 64,5 µm (d50 < 3 µm)
Comments:	For just 1-2 grams of sample, grinding bowl of 10 ml volume should be fulfilling. With particles up to 2 mm length, we recommend using a grinding bowl of 15 mm Ø.

By dry grinding, sample can be ground until a sticking of particles uses to set in. This uses to happen when d50 < 20 µm is present. Interacting forces between fine ground particles will become bigger as their own g-force. Therefore, particles will stick to each other and become compressed by the used grinding balls. These clusters of particles also contain bigger particles (size always depending on sample properties) which will not be ground any further.

To improve the fineness significantly afterwards, separation of coarse particles (e.g. by sieving) and proceeding grinding coarse fraction, or grinding in suspension (e.g. water or solvents) can be performed.

With just one minute of grinding, sample started sticking lightly. We continued dry grinding for a total of 3 minutes and packed the sample when sticking became stronger. At present, d50 was already $< 3 \mu\text{m}$ with d99 $< 64,5 \mu\text{m}$. No particles up to $100 \mu\text{m}$ have been detected with our Laser Particle Sizer.

For rapid cleaning after usage, we recommend flushing and drying the bowl and grinding ball with hot water.



Sample after 1 minutes of grinding: sample is already sticking lightly to bowl and grinding ball.