灰质铝粉

行　　业：	Metallurgy
进料尺寸：	< 4cm
最终精度：	90% < 250µm

JAW CRUSHER PULVERISETTE 1 CLASSIC LINE MODEL I

gap position: 1 (Aluminium ash sample)

Crushing jaws made of tungsten carbide*1

Feed quantity:	77 g*2
Feed Size:	>0,35 <4x3 cm
Grinding time:	18 s*3
Final fineness:	< 6x3x0,8 cm
Comments:	*1: If the metal parts are made of pure aluminium, a grinding with jaws made of zirconium oxide will be possible. To be on the save side, we recommend using tungsten carbide crushing jaws for a iron free grinding.

*2: The original sample contained about 30% of pieces > 3,5mm (up to 4cm). A direct grinding of 4cm parts is not possible with our PULVERISETTE 6. Therefore, the 30% aliquot of 250g of sample will be pre ground in this trial.

*3: It took 18 seconds until the complete sample has been ground. Most of the pieces have only bee deformed. For example. The ~ 3,5x3cm piece we used has been flattened out to ca. 6x3x0,8cm. This thickness might be small enough to be comminute with our Planetary Mono Mill (see trial 1b).

FRITSCH

PLANETARY MONO MILL PULVERISETTE 6 CLASSIC LINE

speed: ~610 rpm (Aluminium ash sample)

500 ml grinding bowl made of zirconium oxide (ZrO2) + 8x 30 mm ZrO2 balls

Feed quantity:	250 g
Feed Size:	mixed sample*1
Grinding time:	20 min*2
Final fineness:	93% < 250 µm*3
Comments:	*1: 173g of < 3,5mm previous sieved sample has been mixed with 77g pre ground sample from trial 1a in the correct ratio to maintain the source material. A pre grinding of 250g of source material is also possible and might take about ~60s with PULVERISETTE 1.

*2: After 5 minutes of grinding, a bit of pure aluminium sample has been sticking to the balls. After 5 minutes of grinding, about 25% of sample has been bigger as 250µm. After 10 minutes of grinding, about 18% has been bigger as 250µm and after 20 minutes of grinding, about 6,3% of sample remained > 250µm.

One piece of sample which has been able to pass the PULVERISETTE 1 has shown a thickness of ca. 4mm, this piece didn't get ground any further with this PULVERISETTE 6 trial. So the maximum thickness should remain < 4mm (see separate plastic bag containing the too big particle).

*3: Determined by sieving an aliquot with our Vibratory Sieve Shaker ANALYSETTE 3 Pro and a sieve with 250µm mesh size.