

Result 3



PLANETARY MONO MILL PULVERISETTE 6 CLASSIC LINE

main disk speed: 650 rpm

250 ml grinding bowl made of hardmetal tungsten carbide (WC)

+ 15x 20 mm Ø WC grinding balls

Feed quantity: 75 g (~ 100 ml)

Feed Size: < 10 mm

Grinding time: 5 min (abortion)

Final fineness: mainly fine ground particles

Comments:

With hardmetal tungsten carbide, maximum 250 ml bowls can be used. For this, a maximum amount of ~ 75 g can be fed per batch. By using a Planetary Mill PULVERISETTE 5, up to 4 bowl fasteners can be used for a simultaneous grinding of ~300-350 g of sample.

After a total grinding time of 5 minutes, grinding has been aborted. Metal wires became flatten out by the impact force of the grinding balls; high amount of pieces have been ground to a fine powder.

The used 20 mm Ø grinding balls does not seem to have enough impact force for a comminution of several thick (> 1 mm) plastic pieces. Probably 30 mm Ø balls might be able grinding more of pieces.

Nevertheless, the observed flattening of metal particles will happen with bigger grinding balls as well.

For this, a comminution of ductile metal particles will not be possible by using a planetary mill.

We also found one screw with a head of ~ 2 mm height and a diameter of ~ 4 mm. We like to mention that a feeding of such thick metal particles

will be able to damage the tungsten carbide knives and the grinding chamber of a PULVERISETTE 19!

Pictures: Majority of particles use to be / or will become ground with longer grinding times (left in the picture); several pieces made of plastic might be even too big for a grinding with 30 mm Ø grinding balls (top right side); ductile metal pieces use to become pressed to flakes in a planetary ball mill in general (lower right side). One screw has been found inside of the sample bag (see red circle). The chance for damaging the planetary mill equipment made of hardmetal tungsten carbide use to be very low. But if such a piece will be fed to a cutting mill, damages of knives and / or grinding chamber are expected to be found afterwards.