

Task:**Application field:** Mineralogy / Metallurgy**Material:** Basalt stones**Feed size:** 20-50 mm**Feed quantity:** 700 g (BB 200); 200 g (PM 100)**Material specification(s):** hard brittle, dry**Customer requirement(s):** < 1 mm, < 40 µm**Subsequent analysis:** XRF X-ray Fluorescence Analysis
ICP Inductively Coupled Plasma**Solution:****Selected instrument(s):** **BB 200 Jaw Crusher**
PM 100 Planetary Ball Mill**Configuration(s):** BB 200: breaking jaws and wear plates of stainless steel
PM 100: Grinding jar 250 ml, tungsten carbide (WC);
12 x grinding balls Ø 20 mm, tungsten carbide (WC)**Parameter(s):** BB 200 gap width 0 – 3 mm
PM 100 revolution speed: 550 rpm, reverse mode 2 min**Time:** 1 min (BB 200)
3 min (PM 100)**Achieved result(s):** BB 200: 67 % < 1 mm
PM 100: 72 % < 40 µm**Remark(s):** If the sample has to be prepared without any iron contamination, a Jaw Crusher BB 200 with tungsten carbide jaws (WC) is recommendable.**Recommendation:** For pre-crushing of hard brittle basalt stones the Jaw Crusher BB 200 and for fine grinding the Planetary Ball Mill PM 100 are suitable under the above mentioned conditions.

Pictures of the sample



Fig. 1: Original basalt sample

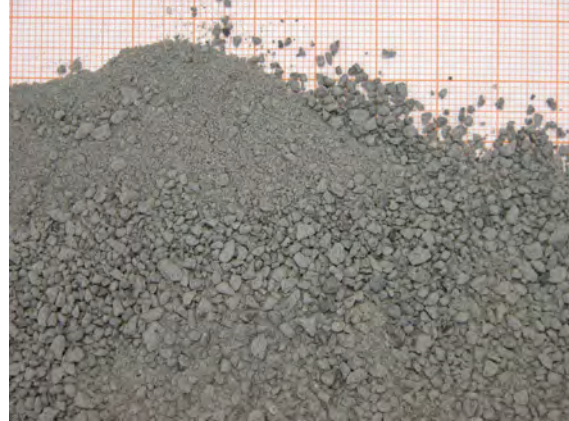


Fig. 2: Basalt sample, pre-crushed in BB 200;

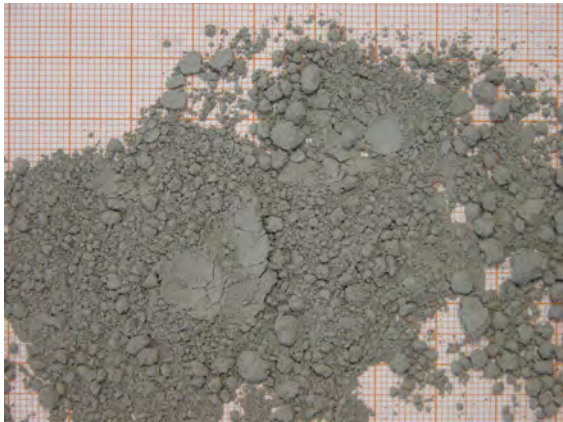


Fig. 3: Basalt sample, after fine grinding in PM 100