### Task:

**Application field:** Building Materials

**Material:** Gravel, waste from road construction (2000 g)

**Feed size:** 0-6 mm (after pre-crushing)

**Feed quantity:** 150 g (single sample after dividing)

**Material specification(s):** hard, brittle

**Customer requirement(s):** < 100 µm, determination of heavy metal, sulphur, chlorine

**Subsequent analysis:** MW Micro Wave Digestion

### Solution:

**Selected instrument(s):**
- BB 200 Jaw Crusher
- PM 100 CM Planetary Ball Mill

**Configuration(s):**
- Jaw Crusher BB 200 breaking jaws of tungsten carbide;
- Planetary Ball Mill PM 100 CM grinding jar 250 ml zirconia (YTZ)
- 5 grinding balls 30 mm of zirconia (YTZ)

**Parameter(s):**
- BB 200 gap size = 5 - 8 mm;
- PM 100 CM = 400 rpm

**Time:** 10 min. (for fine grinding)

**Achieved result(s):** 80 % < 100 µm after fine grinding

**Remark(s):** The sample preparation was done by following steps:
1. Pre-crushing of the total sample in Jaw Crusher BB 200,
2. Representative sample dividing with Sample Splitter RT 25,
3. Fine grinding in Planetary Ball Mill PM 100 CM.
**Recommendation:** For fine grinding of hard and brittle materials the Planetary Ball Mill PM 100 CM is suitable under the above mentioned conditions.