Task:

**Application field:** Chemistry / Plastics

**Material:** PET bottle bodies, pre forms with different sizes

**Feed size:** 0-150 mm (Cylinder diameter max. 60 mm)

**Feed quantity:** 50 g (per sample)

**Material specification(s):** tough, temperature sensitive

**Customer requirement(s):** < 500 µm

**Subsequent analysis:** Dilution Viscosity

Solution:

**Selected instrument(s):** SM 100 Cutting Mill

ZM 200 Ultra Centrifugal Mill

**Configuration(s):**
- Bottom sieve of stainless steel, square holes 4.0 mm;
- Bottom sieve of stainless steel, trapezoid holes 2.0 mm;
- Ring-type filter with trapezoid holes body for collecting receptacle 5 l;
- For ZM 200 distance ring sieve of stainless steel, trapezoid holes 0.75 mm

**Parameter(s):**
- Revolution speed SM 100 1450 rpm
- Revolution speed ZM 200 18000 rpm

**Time:** 2 min. (per sample for pre grinding in SM 100)

**Achieved result(s):**
- predominantly < 2 mm (SM 100)
- < 500 µm (ZM 200)

**Remark(s):** The pre-grinding of all PET pre forms was done in the Cutting Mill SM 100, bottom sieve 4 mm. If the end fineness from the SM 100 is not sufficient, the fine grinding process must be done in the Ultra Centrifugal Mill ZM 200, distance sieve 0.75 mm
**Recommendation:** The sample preparation of PET bottle bodies can be done under the above mentioned disintegration conditions.

**Pictures of the sample**

![Fig. 1: Original pre form sizes](image1)

![Fig. 2: After pre-cutting in SM 100](image2)