## Task:

**Application field:** Chemistry / Plastics  

**Material:** PP-Pellets  

**Feed size:** 0-3 mm  

**Feed quantity:** 50 g (for ZM 200, 5 g for CryoMill)  

**Material specification(s):**  

**Customer requirement(s):** < 1 mm in ZM 200, < 20 µm in CryoMill  

**Subsequent analysis:** Nuclear Magnetic Resonance Spectroscopy

## Solution:

**Selected instrument(s):**  

CryoMill  

*Ultra Centrifugal Mill ZM 200*  

**Configuration(s):**  

ZM 200: Push-fit rotor, 12 teeth, stainless steel; Ring sieve 360 trapezoid holes 1.50 mm, stainless steel;  

CryoMill: Grinding jar stainless steel 50 ml for CryoMill;  

Grinding ball stainless steel 25 mm ø  

**Parameter(s):**  

ZM 200: Revolution speed 18000 rpm  

CryoMill: Frequency 25 Hz, Pre cooling + 1 min, 3x2 min grinding, 1 min intermediate cooling between grinds  

**Time:** 2 min. (for ZM 200, 8 min for CryoMill)  

**Achieved result(s):** Predominantly <1 mm for both grindings. A fineness of < 20 µm can not be achieved with the CryoMill.  

**Remark(s):**  

PP-pellets can be ground with the Ultra Centrifugal Mill ZM 200 and the CryoMill according to the above mentioned conditions.
Pictures of the sample

**Fig. 1:** Original sample

**Fig. 2:** Sample after grinding in ZM 200, ring sieve 1.5 mm

**Fig. 3:** Sample after grinding in CryoMill