Task:

Application field: Chemistry / Plastics

Material: 1) PBT (coil cores); 2) PA6,6 (coverings)

Feed size: 20-160 mm (sample 1); 2 - 40 mm sample 2))

Feed quantity: sample 1) 112 g (7 coil cores); sample 2) 20 g

Material specification(s): hard

Customer requirement(s): 0.5 mm

Subsequent analysis: Melting viscosity, melt flow

Solution:

Selected instrument(s): Cutting Mill SM 300
Ultra Centrifugal Mill ZM 200

Configuration(s): SM 300: 6-disc rotor SM 300, stainless steel; Bottom sieve square holes 4 mm, stainless steel; Standard hopper; ZM 200: Push-fit rotor, 12 teeth, stainless steel; Distance sieve trapezoid holes 0.5 mm, stainless steel

Parameter(s): Revolution speed
SM 300: 1800 rpm
ZM 200: 18000 rpm

Time: 30 s SM 300; 30 - 90 s ZM 200 (depending on sample amount)

Achieved result(s): Predominantly < 0.5 mm

Remark(s): A pre-embrittlement in liquid nitrogen will improve the breaking behaviour and reduce frictional heating during grinding.

Recommendation: The Cutting Mill SM 300 and the Ultra-Centrifugal Mill ZM 200 are suitable to grind the sample material under the above mentioned conditions.

The application report is based solely on the processing of the available sample material in the indicated amount. No legal claims shall be derived from this test report. Subject to technical modification and errors.

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Pictures of the sample

**Fig. 1:** Original sample PBT

**Fig. 2:** Sample PBT after fine grinding in ZM 200, sieve 0.5 mm

**Fig. 3:** Original sample PA6,6

**Fig. 4:** Sample PA6,6 after fine grinding in ZM 200, sieve 0.5 mm