Task:

Application field: Environment

Material: Tire Chips for derived fuels

Feed size: Approx. 1 - 150 mm

Feed quantity:
- Pre-grinding: approx. 140 g
- Fine grinding: approx. 60 g

Material specification(s):
Tough, hard, elastic, fibrous

Customer Requirement(s):
< 500 µm

Subsequent analysis:
Microwave digestion

Solution:

Selected instruments(s):
- Heavy-Duty Cutting Mill SM 2000
- Ultra Centrifugal Mill ZM 200

Configuration(s):
SM 2000:
- 6 disc rotor;
- Bottom sieve 10 mm, square holes;
- Standard hopper

ZM 200:
- Push-fit rotor with 12 teeth;
- Ring sieve with reinforced rim, 0.75 mm

Parameter(s):
SM 2000: Revolution speed 835 rpm
ZM 200: Revolution speed 18000 rpm

Time:
SM 2000: approx. 3 min.
ZM 200: 2 – 3 min.

Achieved result(s):
Predominantly < 0.75 mm

Remark(s):
Working procedure:
1. Pre-cutting of the material in the SM 2000: pre-embrittlement in liquid nitrogen is necessary
2. Separation of the metal parts (wires) with a magnet

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.
© Retsch GmbH - www.retsch.com - lab@retsch.com
3. Fine grinding of the pre-ground and in liquid nitrogen pre-embrittled sample in the ZM 200
For larger quantities and to reduce the frictional heat the use of a cyclone for the ZM 200 is recommended.

**Recommendation:** For the grinding of Tire Chips the Heavy-Duty Cutting Mill SM 2000 and the Ultra Centrifugal Mill ZM 200 are suitable under the above mentioned conditions.

**Pictures of the sample(s):**

**Fig. 1:** Tire Chips before grinding

**Fig. 2:** Tire Chips after pre-grinding in the SM 2000

**Fig. 3:** Pre-ground sample after separation of the wires

**Fig. 4:** After fine grinding in the ZM 200