Task:

Application field: Environment

Material: Electronical circuit board, total quantity 640 g

Feed size: 50-60 mm

Feed quantity: 450 g (after separation of steel and iron components)

Material specification(s): abrasive, tough

Customer requirement(s): < 200 µm for XRF

Subsequent analysis: X-ray Fluorescence Analysis

Solution:

Selected instrument(s): Heavy-Duty Cutting Mill SM 2000

As the SM2000 was discontinued we recommend to use the SM300 now
Ultra Centrifugal Mill ZM 200

Configuration(s): Standard hopper SM;
Bottom sieve SM square holes 6 and 4 mm, stainless steel;
Push-fit rotor ZM 200, 12 teeth, stainless steel;
Ring sieve ZM 200 trapezoid holes 0.75 and 0.25 mm, stainless steel

Parameter(s): Revolution speed SM 2000 = 695 rpm
Revolution speed ZM 200 = 18000 rpm

Time: 8 min.

Achieved result(s): < 200 µm

Remark(s): The sample preparation was done acc. to the following work steps:
1. Pre cutting of the total quantity in SM 2000, bottom sieve 6 mm
2. Pre cutting of a representative single sample in
SM 2000, bottom sieve 4 mm
3. Fine grinding of a representative single sample in ZM 200, ring sieve 0.5 and 0.25 mm

**Recommendation:** For sample preparation of different electric and electronical parts acc. to RoHS, the Heavy Duty Cutting Mill SM 2000 is suitable for pre cutting and the Ultra Centrifugal Mill ZM 200 for fine grinding under the above mentioned conditions.

**Pictures of the sample**

**Fig. 1:** Original sample  
**Fig. 2:** After pre cutting in SM 2000 bottom sieve 6 mm  
**Fig. 3:** After pre cutting in SM 2000 bottom sieve 4 mm  
**Fig. 4:** Fine grinding in ZM 200 ring sieve 0.25 mm