

Press release

Your Cell phone turns into dust

Optimal sample preparation for the RoHS/WEEE Analysis



Considering the characteristics of materials used for the construction of a cell phone the whole spectrum of hard-tough to hard-brittle up to soft, tough-elastic materials is found. Mentioned should be metals, ceramic parts and the most various plastics.

Whereas the hard-brittle materials are easily ground with impact energy, the comminution of tough-elastic materials is only achieved with cutting force. Tough-elastic materials may be embrittled with liquid nitrogen and then ground with impact force.

The Power Cutting Mill PULVERISETTE 25 was chosen as the first level of comminution of a complete cell phone. Once reduced to 10 mm the Vibrating Cup Mill PULVERISETTE 9 was supposed to complete the rest. This experiment was unsuccessful. Therefore the PULVERISETTE 25 with a 4 mm sieve was used again. For the next level, the Universal Cutting Mill PULVERISETTE 19 was chosen. With cutting tools made of hard metal tungsten carbide the remainder was comminuted down to 1 mm. An attempt to achieve even a finer powder by exchanging the sieve was unsuccessful.

That's why as the last level of comminution the Variable Speed Rotor Mill PULVERISETTE 14 with a 0.5 mm sieve was utilized.

Good experiences of the comminution of single electronic components were made with the Vibratory Micro Mill PULVERISETTE 0, embrittled with liquid nitrogen in the cyro-box.

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