Task:

Application field: Construction Materials

Material: Timber - Preserved (Plywood)

Feed size: 40-150 mm

Feed quantity: 80 g

Material specification(s): fibrous, dry

Customer requirement(s): < 1mm

Subsequent analysis: quality and production control

Solution:

Selected instrument(s): Cutting Mill SM 300

Configuration(s): Standard hopper; Bottom sieve trapezoid holes 1 mm, stainless steel; Bottom sieve trapezoid holes 2 mm, stainless steel; Parallel section rotor SM 300, stainless steel

Parameter(s): Revolution speed 2200 rpm

Time: < 1 min.

Achieved result(s): Plywood 2 mm sieve: < 4 mm length
Plywood and lighter wood 1 mm sieve: < 2 mm length

Remark(s): Using the trapezoid sieves mean that the milled particles have an elongated shape (see photos)
A smaller sieve of 0.75 or even 0.5 mm can be used to reduce the final size of the sample. However, not all of the sample will pass the bottom sieve and remain in the grinding chamber

Recommendation: The Cutting Mill SM300 can be used for this application under the above mentioned conditions.
Pictures of the sample

Fig. 1: Sample 1 before grinding

Fig. 2: Sample 2 before grinding

Fig. 3: Sample 1 after grinding in the SM300 with 1 mm bottom sieve

Fig. 4: Sample 2 after grinding in the SM300 with 1 mm bottom sieve