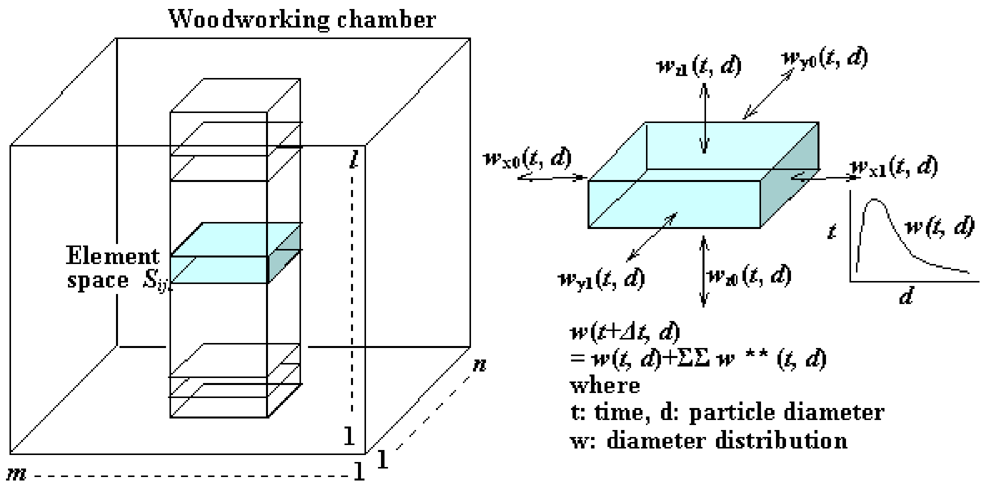
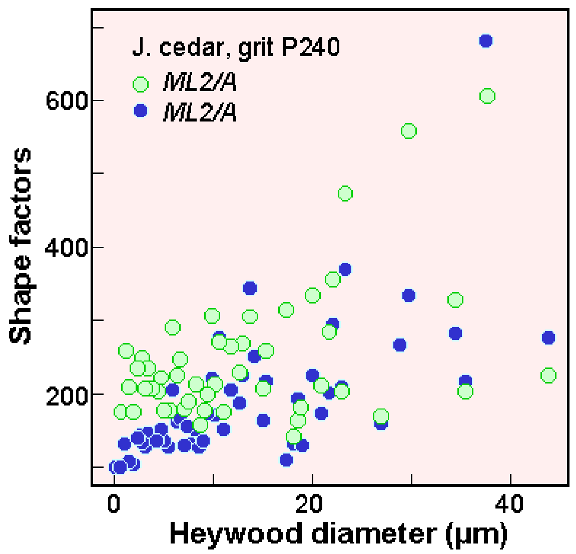
1996

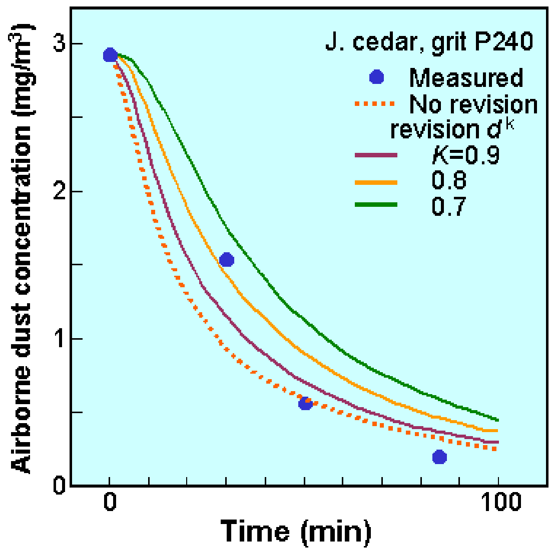
Prediction of Air-borne Dust Concentration (A.D.C.)in Woodworking Chamber

—Effect of Particle Shape on their falling behavior and A.D.C.—

The distribution of air-borne dust concentration in a model woodworking chamber caused by fine particles in freefall was predicted using a numerical method. The time change of A.D.C. was analyzed taking the influence of the complicated particle shape on their falling behavior into account.







Relationship between Heywood diameter and Shape factors

The tempo of free fall depends not only on the diameter but also the shape of the particle.

Simulated time changes of airborne dust concentration in comparison with measured value

A.D.C was simulated for different equivalent particle diameter dk.