





Analysis of Sheet-Metal Bending Deformation Behavior

in Processing Lines and Its Effectiveness*

Synopsis:

and transverse directions, respectively expressed by the following equation:

$d\epsilon_{xp}$, $d\epsilon_{yp}$, $d\epsilon_{zp}$: Plastic strain increments in the longitudinal, transverse and thickness direc-

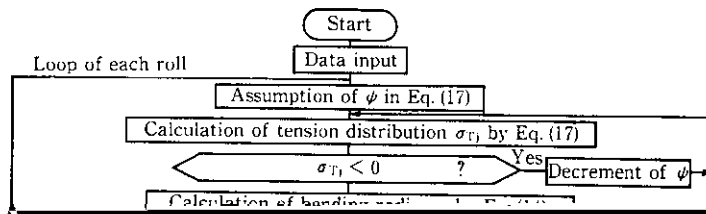
$$d\bar{\epsilon} = \sqrt{\frac{2}{3}(d\epsilon_x^2 + d\epsilon_y^2 + d\epsilon_z^2)} \quad (2)$$

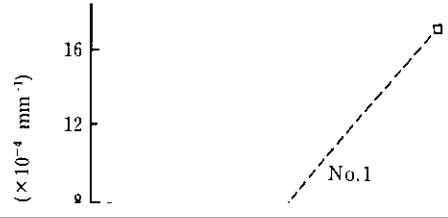
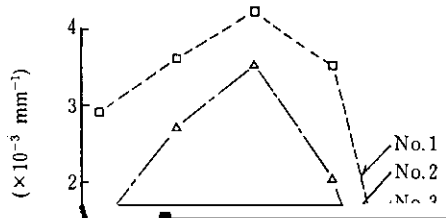
σ_x

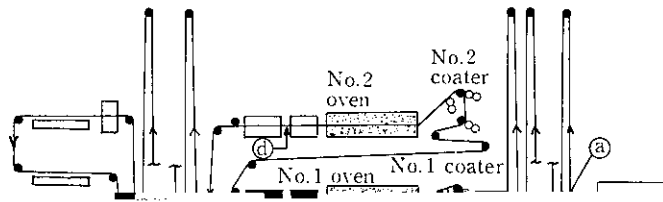
Unloading means that the integrated longitudinal stress through thickness σ_x and the bending moments

The main function of a tension leveler is to eliminate that part of the tensile stress is allotted to a long die

level elongation. In general, level elongation is equal to the amount of elongation that occurs in the leveler.

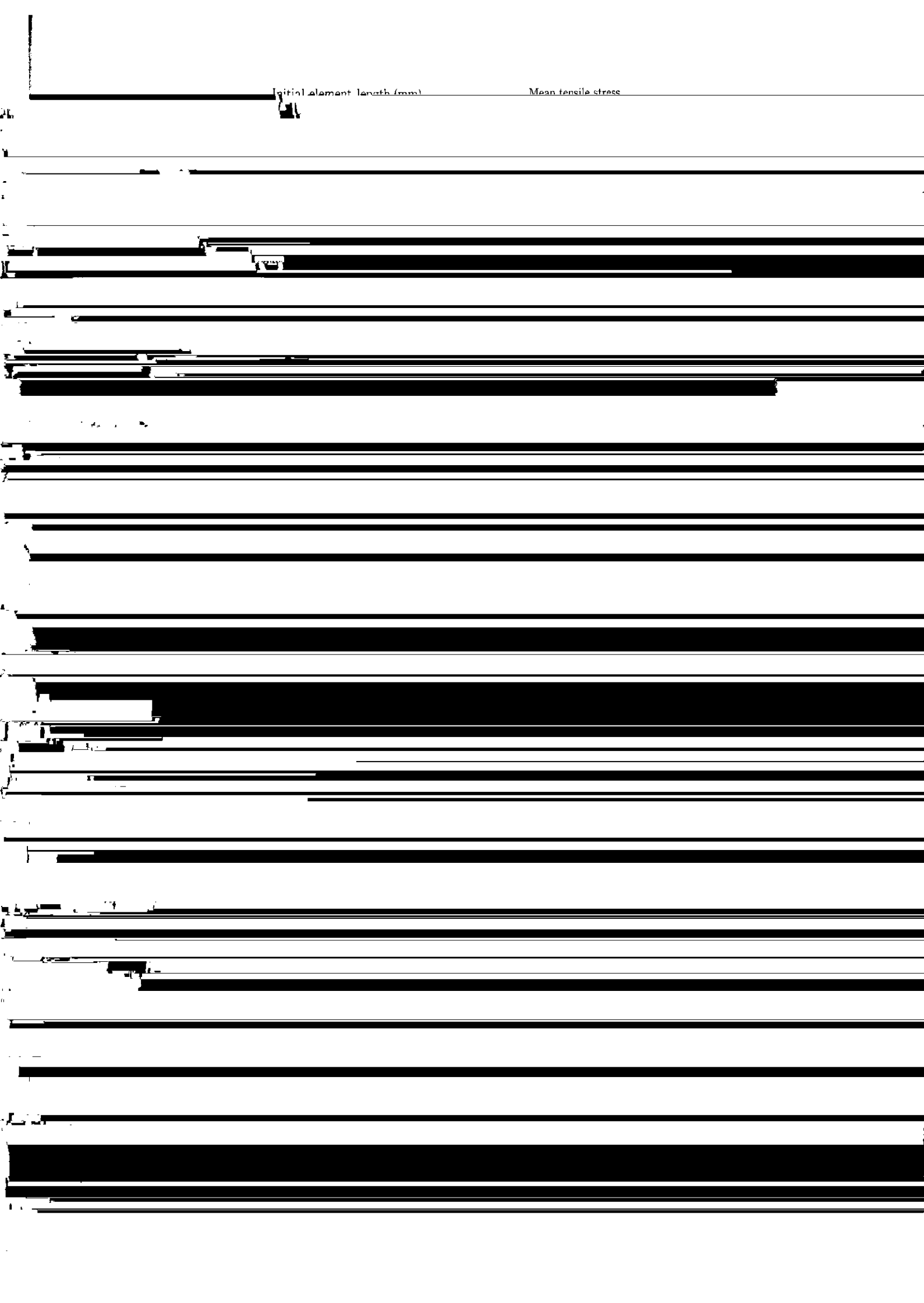






Initial element length (mm)

Mean tensile stress



λ (%) 0.8
Initial strip steepness

estimation. The authors demonstrated, with some examples, that a calculation for flatness correction is