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# Strain hardening behaviour and the Taylor factor of pure magnesium

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Acknow

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## Notes

### Notes

1. Kelley and Hosford [13](#) showed that the yield surface of textured polycrystals of pure Mg is highly non-equiaxed due to the stress asymmetry of twinning; however, it takes a nearly equiaxed shape after the first 6–8% strain, once twinning is over.

2. Preserving the yield surface's initial shape requires strain hardening proportional to the current flow stress, an assumption which is not easy to justify by dislocation theory [3](#).

3. The scales in [Figures 1](#) through [4](#) are related by the Taylor factors  $M_{\sigma} = M_{\epsilon} = 4.5$ . A higher or lower  $M$  value, respectively, decreases or increases the relative slope of the polycrystal

4. It is from twinning become active at record in their experiment simplistic at very large

5. < and c crystal [47](#),



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properties

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Effect of deformation temperature on Hall-Petch relationship registered for polycrystalline magnesium

Source: Elsevier BV

Pair interaction of pyramidal dislocations and its contribution to flow stresses in Mg crystals during slip in system {1122}

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Application of texture simulation to understanding mechanical behavior of Mg and solid solution alloys containing Li or Y

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Deformation modes in  $\gamma$ -TiAl as derived from the single crystal yield surface

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Microstructure evolution under compressive plastic deformation of magnesium at different temperatures and strain rates

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The plastic deformation of polycrystalline aggregates

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Effect of temperature and shear direction on yield stress by  $\{11\bar{2}2\}$  slip in HCP metals

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The crystallography and deformation modes of hexagonal close-packed metals

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