

MITOS A REFUTAR

1. This spring isn't stiff enough. We should use a harder steel. Perhaps a stronger steel would make a tougher pipeline. If something breaks, use a stronger material.
2. This tungsten wire isn't ductile enough. Let's anneal it at a higher temperature.
3. We are having too many fatigue failures. We'd get a longer life if we used a tougher grade of steel.
4. I know that you are having trouble with the bar splitting when you roll it. Maybe you could roll it without having it split if you "babied" it by using a series of lighter reductions.
5. If there is a strain in the x -direction, there must be a stress in the x -direction. Where there's smoke, there's fire!
6. Under rapid loading, a material that is very sensitive to the strain rate will have less ductility than a material that is insensitive to strain rate.
7. Residual stresses in the glaze of pottery can be prevented by slow cooling after annealing.
8. The fact that the stained glass windows in old European cathedrals are thicker at the bottom than at the top is proof that glass creeps at room temperature.
9. Since decreasing grain size increases strength, fine-grained materials should creep more slowly than coarse grain materials.
10. A ductile, annealed sheet of aluminum should have a greater formability in can making than a cold-worked sheet of aluminum.
11. The presence of dislocations explains why the yield strengths of crystals are much lower than theory predicts. Therefore, the strength should drop as the number of dislocations increases and metals strain-harden as dislocations leave the surface, decreasing the number of dislocations left in the crystal.
12. We know that steel is brittle at low temperatures. Aluminum must be too.
13. If the ductile-brittle transition temperature of a steel is -30°C , it won't fail brittly above that temperature.
14. To increase the uniformity of deformation in the drawing of wire, we should use a large number of very light passes rather than a few passes of heavy reduction.
15. Since the reduction of area in a tension test is 55%, we cannot expect to roll the material to a reduction greater than 55% without cracking.