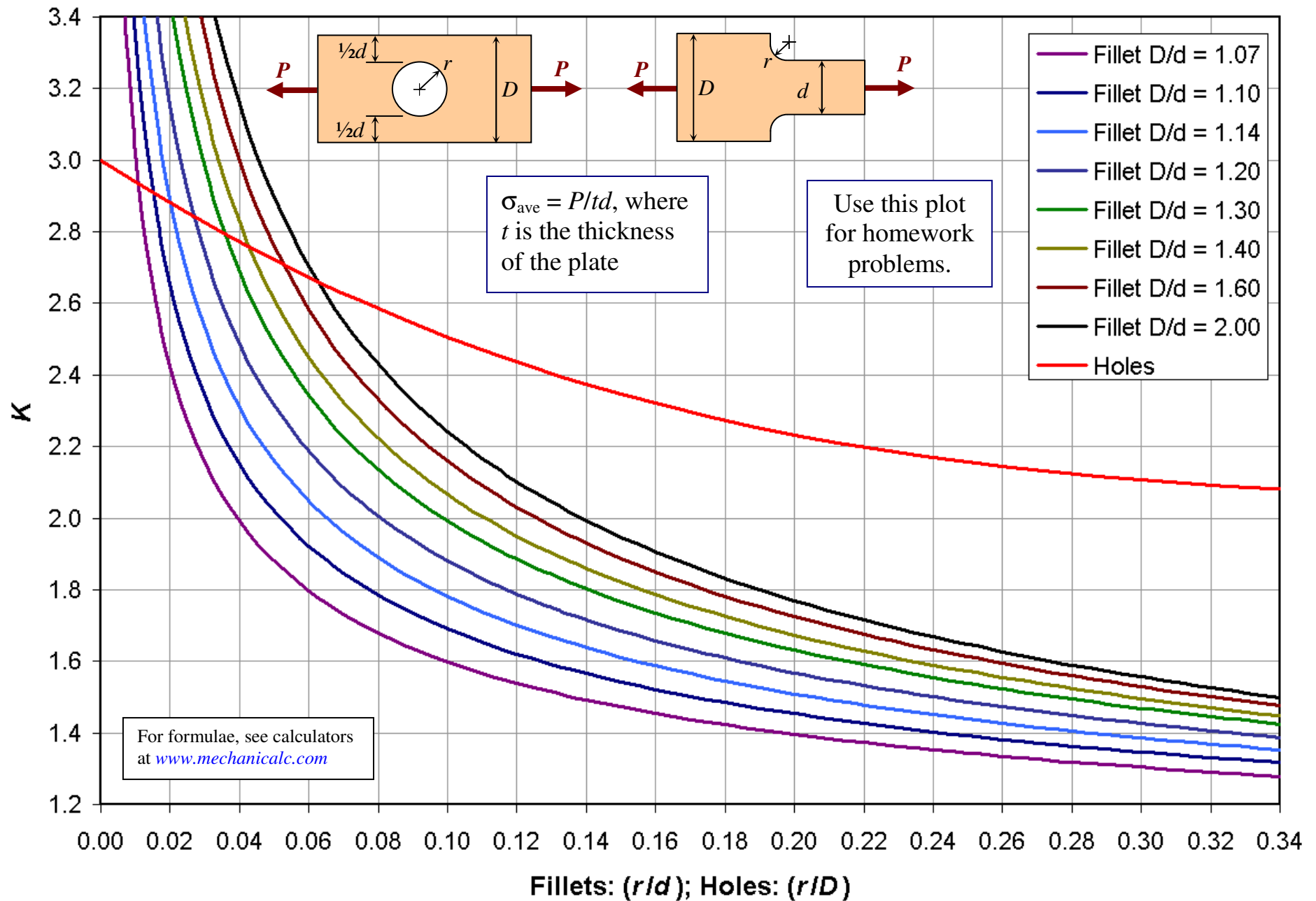


Stress Concentration Factors for Flat Bars under Axial Loading



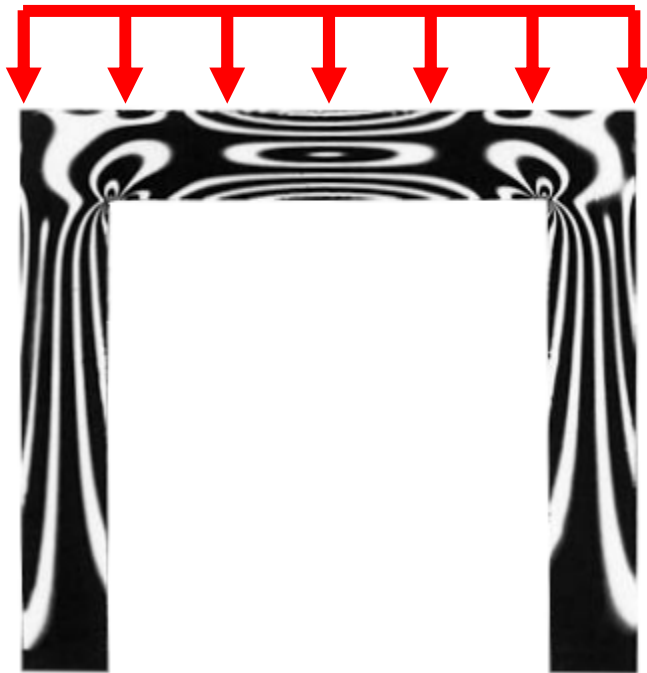


Photo from: infohost.nmt.edu



Photo from: www.ces.clemson.edu

Photo-elastic Materials

Many transparent plastics are “photo-elastic”, which means that stress creates bands of color in them (via polarization differences). Similar to electric field lines or fluid velocity streamlines, regions with higher line density have higher stress. Photographs of such materials can quickly reveal regions of stress concentration.

In the upper photo, there is a clear stress concentration at the inner corners. In the lower photo, stress is higher at the left end of the beam (near the wall).

Torsion: Stress Concentration Factor

