



Homework-4&5

Student Name: _____

Grade: $\frac{\quad}{10}$

- 1- Calculate the extrusion force for a round billet 300 mm in diameter, made of stainless steel, and extruded at 1000°C to a diameter of 2.75 in.**



2- A round wire made of a 70-30 Brass ($K = 900 \text{ MPa}$, $n = 0.49$) is being drawn from a diameter of 5 to 4 mm in a draw die of 13° . Let the coefficient of friction be 0.15.

- a) Calculate the drawing force required (frictionless).**
- b) Calculate the drawing force required (including friction).**

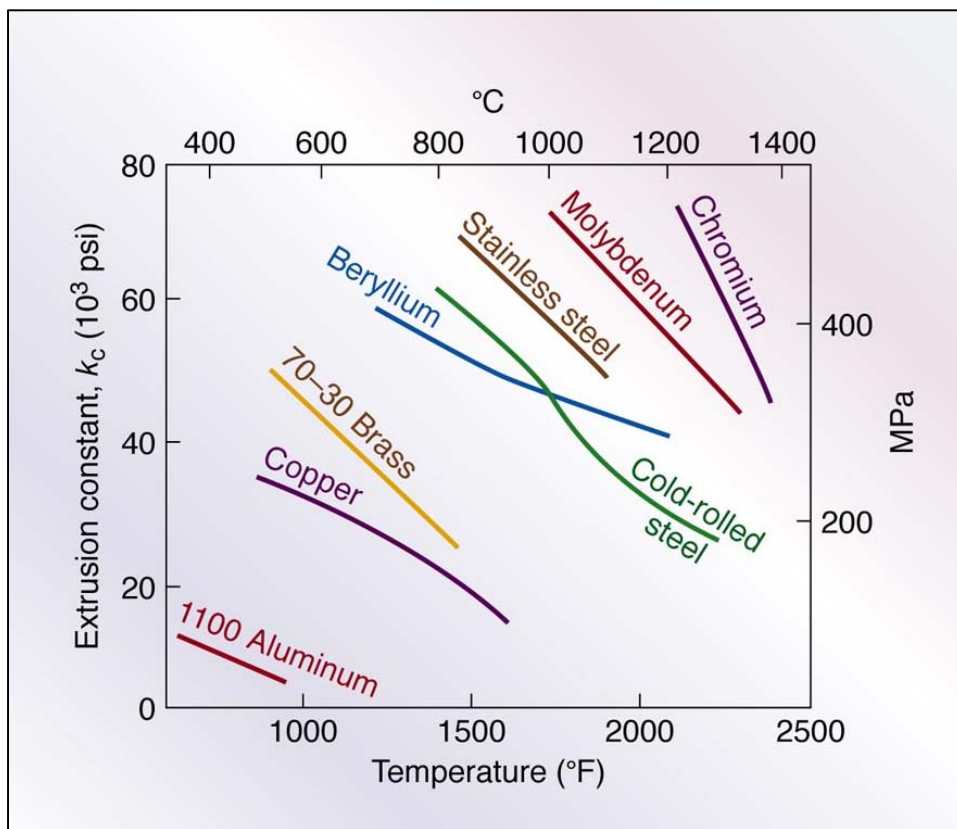


Fig.1 | Extrusion constant k_c for various metals at different temperatures.