

Material Properties

This module lists typical numerical values for selected mechanical properties, for a number of important structural materials. These are intended primarily for educational use: while these values are typical, in many cases a very wide range of values can be exhibited for ostensibly identical materials. Some properties, such as density, do not vary much and the tabulated values are quite reliable. Others, such as fracture toughness, can be varied over an extremely large range by the material's processing history as well as other factors. The cost values are especially prone to variation, depending on current economic conditions.

Therefore, these values should be used only for preliminary design and analysis purposes. Current vendor data along with actual laboratory testing should be used for final design, especially when human safety factors are present.

The table of properties is available in the readings section, in both a viewable and printable .pdf file or a comma-separated .csv file for downloading and incorporation into spreadsheet software.
