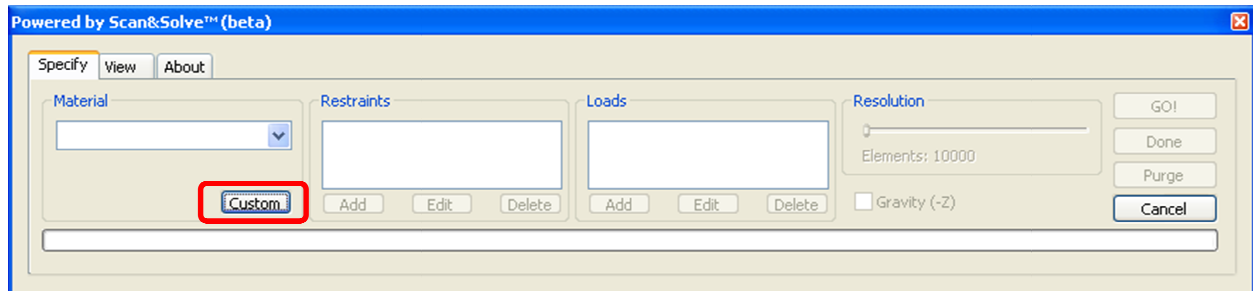
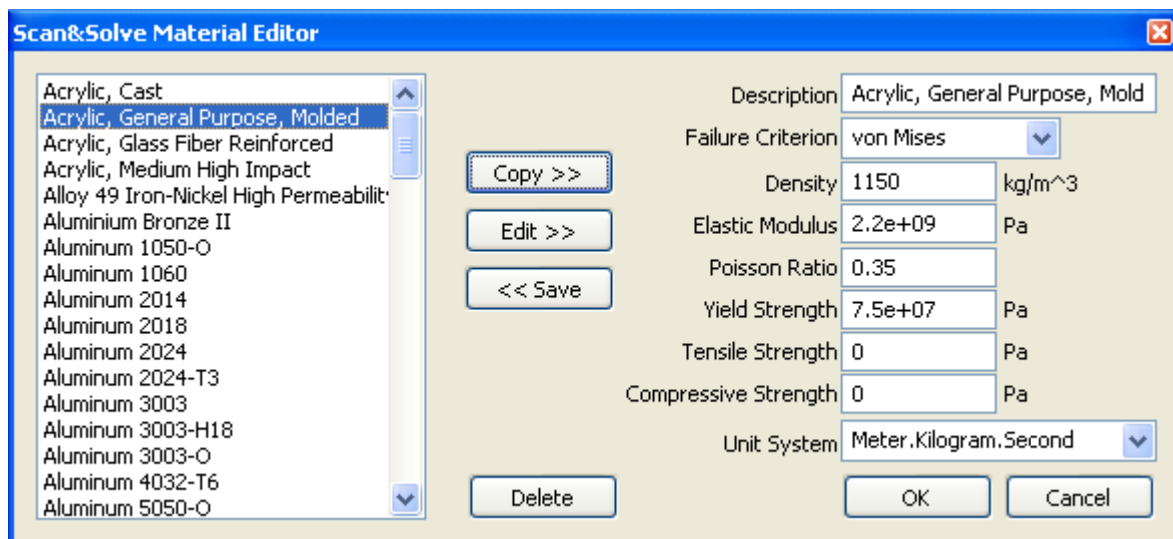


# Scan&Solve™ Cheat Sheet for Using the Material Editor

## Editing Material Properties



[Custom] on the Specify tab, brings up the material editing dialog:



The controls are as follows:

[Copy >>] copies a material's properties for modification and addition to the material database.

[Edit >>] copies a material's properties to the edit boxes for modification.

[<< Save] applies modifications or additions to the material database.

[Delete] deletes the currently selected material from the material database.

[Unit System] allows the entries to be made in the unit system of choice.

[OK] saves to the material database any changes made.

[Cancel] exits the dialog without saving the changes.

## Failure Criterion (see CAUTION below)

The “Failure Criterion” is used to determine the initial Danger Level reported in the simple view. The choices are as follows:

- Von Mises -used for ductile materials.
- Maximum Shear Stress -used for ductile materials, it is also known as the Tresca or Guest criterion.
- Rankine -used for brittle materials, it is also known as maximum normal stress criterion.
- Coulomb Mohr -used for brittle materials, more conservative than Rankine criterion.
- Modified Mohr -used for brittle materials, more conservative than Coulomb Mohr criterion.

The von Mises and Maximum Shear Stress criteria are used to compute the Danger Level using the yield strength from the material database. If zero yield strength is specified, the material will not be able to be saved. The Rankine, Coulomb-Mohr, and Modified Mohr criteria use the tensile strength and compressive strength entries. If a zero tensile or compressive strength is specified, the material will not be able to be saved.

### CAUTION:

Scan&Solve computes the Danger Level in the [View] tab based on the entries in the Yield Strength, Tensile Strength, and Compressive Strength entries. The von Mises and maximum shear stress failure criteria are only applicable to ductile materials- materials that flex, stretch, or compress significantly before failure. The Rankine, Coulomb-Mohr, and Modified Mohr failure criteria must be used for brittle materials such as glass, ceramics, and concrete- materials that fail without significant deformation.