

## Question 40

**Q:** How to determine the material parameters of a hyperelastic material from material test data?

**A:** Femtet implements the curve fitting that determines the coefficients of each model from multiple results of material tests. The curve fitting uses the least squares method. The material tests include uniaxial tensile, biaxial equal tensile, pure shear, and uniaxial compression tests.

A simple tensile test is not enough to determine the coefficients of the Mooney-Rivlin and Ogden models. A combination of multiple results of material tests can improve the accuracy of the model coefficients.

If only data from simple tensile tests are available, the Neo Hooke model is recommended.