ANSYS - Hertz Contact Mechanics

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Hertz Contact Mechanics

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Problem Specification

For an electronic copy (PDF) of the relevant report, click here.

Consider a simple problem that illustrates a comparison between the analytical and numerical results. As shown in the diagram below, consider a problem where we apply a downward force (F) of 60 N to a spherical object with a radius (R_1) of 8 mm. This isotropic sphere has an axial modulus (E_1) of 1 GPa and a Poisson's ratio ($_1$) of 0.3. In addition, this sphere is fixed vertically at the contact interface with a rigid wall. Since we are modeling the wall as a rigid body, we assume axial modulus (E_2) equals + and Poisson's ratio ($_2$) equals 0. Also, the radius of curvature of the wall (R_2) can be assumed to be zero.
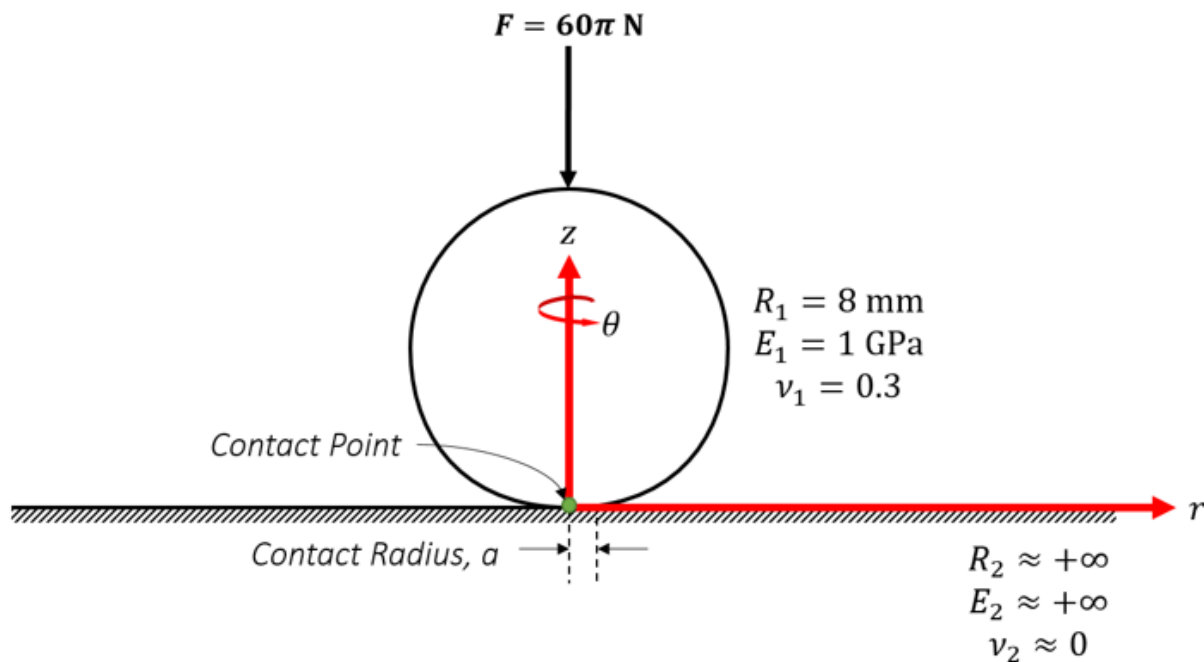
Go to Step 1: Pre-Analysis & Start-Up

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