Solid mechanics

Table of contents

Verification of Coreform IGA solid-mechanics capabilities against analytic solutions, textbook references (e.g. Roark), and body-fitted Abaqus reference simulations.

Problems are grouped by **capability** rather than by Abaqus keyword. Each problem page lists the specific keywords it exercises (extracted from its analysis deck) in a *Supported Abaqus keywords* section.

Capabilities

6 verification studies

Linear elastic stress

Verify displacement and stress fields under small-strain linear elasticity, including multiple load types, boundary conditions, maximally smooth spline bases, materials, and curved trimmed boundaries.

Browse verification studies →

1 verification study

Contact

Verify deformable-body normal and frictional contact under finite sliding against classical contact-mechanics solutions.

Browse verification studies →

1 verification study

Thermal strain

Verify stresses produced by discontinuous prescribed thermal strain.

Browse verification studies →

1 verification study

Implicit dynamics

Verify direct time integration for native, body-fitted, and immersed discretizations.

Browse verification studies →