Current capabilities and limitations

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Coreform IGA for Abaqus extends Abaqus/Standard with isogeometric analysis (IGA) user elements. Depending on the material model and analysis workflow, elements generated by Coreform IGA can use either the `UEL` or `UELMAT` user-subroutine path. Support therefore cannot be inferred from the restrictions of either subroutine alone.

Coreform IGA currently focuses on structural-mechanics workflows in Abaqus/Standard. Abaqus/Explicit and Abaqus/Aqua are not supported. Within Abaqus/Standard, support can depend on the analysis procedure, keyword options, requested output, and whether a model contains IGA elements, native finite elements, or both. For example, Coreform IGA might pass a keyword through unchanged for native elements, translate or extract it for IGA elements, split it for a mixed model, or reject a particular combination.

Because this coverage evolves as implementation and verification work progresses, the generated reference pages below are the authoritative sources for detailed, current status.

- The Abaqus keyword support guide reports per-keyword input-deck coverage.
- The capabilities matrix reports per-capability support level with verification evidence.

1 Support levels

Capability maturity uses four support levels. A level applies only to the scope, product versions, and limitations stated on the corresponding capability card.

Level	Meaning
Unsupported	An authoritative limitation or deliberate rejection exists for the stated scope.
Alpha	An implementation exists, but its workflow might be unstable or lack active accuracy and stability evidence. Expect limitations and potentially workflow-breaking changes.
Beta	The workflow is usable and has engineering, integration, regression, or customer evidence, but it does not yet have complete

Level	Meaning
	official verification evidence. Its interface and documented scope can still change in response to feedback.
Production	The capability is released and documented, satisfies release requirements, and has current, passing official verification evidence that meets its capability-specific evidence contract.

2 Abaqus keyword support guide

Most Coreform IGA models begin with an Abaqus input deck. Some Abaqus definitions can be used as written, while others must be translated so that they act correctly on IGA elements. The Abaqus keyword support guide explains how Coreform IGA handles each supported keyword and its relevant options, including when an item is passed through, translated, applied only to part of a mixed IGA—finite-element model, or rejected with a diagnostic.

Use the guide when you want to know whether an existing Abaqus model can be used with Coreform IGA, whether a particular option requires a workflow change, or how the translated input deck will differ from the source deck. Because support can depend on the analysis procedure, requested output, model target, and keyword options, consult the applicable case rather than relying on the keyword name alone.

The published guide and the translator are generated from the same reviewed support definitions. Automated consistency checks run as the software and documentation are built, preventing the documented translation behavior from changing independently of the behavior used by Coreform IGA. The guide therefore provides an accurate, current description of input translation for the documented product version.

3 Capabilities matrix

Coreform IGA brings IGA simulation capabilities into the familiar Abaqus/CAE and Abaqus/Standard environment. Because this integration is still expanding, not every Abaqus workflow is available for IGA elements, and supported workflows are not all at the same level of maturity. Before adopting Coreform IGA for a team or project, you may need to confirm support for a particular analysis procedure, load, constraint, material, contact formulation, output request, mesh type, or mixed IGA—finite-element workflow.

The capabilities matrix is a searchable, user-oriented summary of that coverage. Each card describes the supported scope, current maturity, applicable product versions, known limitations, related capabilities, and available verification evidence. Use it to assess whether Coreform IGA

is a good fit for your intended workflow and to identify questions that should be discussed with Coreform before deployment.

Capability claims are reviewed as part of product development and checked against current automated verification results when the documentation is built. A capability cannot be published at the `Production` level without qualifying, passing verification evidence. This connection between documented maturity and the verification suite keeps the matrix accurate and up to date as Coreform IGA evolves.