

***This toolbox helps you load industry standard FEM meshes into Diffpack.***

***It is suitable as an interface to most external preprocessing tools and mesh construction programs.***



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## **Easy Import of External Finite Element Meshes**

As a complement to the preprocessors available in the Diffpack Kernel, the Diffpack Datafilter Toolbox facilitates easy and safe import of finite element meshes from external preprocessors.

This means that you may enjoy the capabilities and functionality of your favorite preprocessor, and then load the resulting grid definitions and boundary conditions directly into your Diffpack application.

Most commercial preprocessors are able to store meshes in at least one of the following three industry standard formats:

- ✓ Abaqus
- ✓ Ansys
- ✓ Nastran

To ensure a broad coverage of external preprocessors, these three formats are all supported by the Datafilter Toolbox.

## **Embedded in Your Application or as File to File Converter**

You can use the Datafilter Toolbox either as a linkable library or as a set of stand-alone programs:

- ✓ As a linkable library, the Datafilter Toolbox gives you the possibility of creating Diffpack applications that can parse external data files and import grid definitions and boundary conditions directly. In this mode, the data read from file is used to build a ready-to-use finite element grid (GridFE) object inside your application.
- ✓ As stand-alone programs, the Datafilter Toolbox accepts the external mesh files as input and generates native Diffpack mesh files that can be directly loaded into any FEM-based Diffpack application.

## **Additional Preprocessing Tools**

In addition to the Datafilter Toolbox, the Diffpack Kernel provides preprocessors that support lattice grids, transfinite mappings and super-element techniques as well as interfaces to GiD, GeomPack and Triangle.

The Diffpack Adaptivity Toolbox gives you fingertip control on adaptive mesh refinement, which provides significant enhancement of the Kernel and Datafilter preprocessing capabilities.