Modeling 2D_FLUI_ABSO

Summary:

This document describes for modeling 2D_FLUI_ABSO :

- degrees of freedom carried by the finite elements which support modeling,
- the related meshs supports,
- supported loadings,
- nonlinear possibilities,
- CAS-tests implementing modeling.

Modeling 2D_FLUI_ABSO (Phenomenon: MECHANICS) corresponds to finite elements whose meshs supports are linear. They make it possible to take into account the condition of absorbing border of fluid sections of volumes, moving plan.

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1 Discretization

1.1 Degrees of freedom

Modeling	Degrees of freedom (with each node top)
2D_FLUI_ABSO	NEAR : pressure PHI : fluid potential of displacement

1.2 Mesh support of the matrices of rigidity

The meshs supports of the finite elements are segments. The elements are isoparametric.

Modeling	Mesh	Interpolation	Remarks
2D_FLUI_ABSO	SEG2 SEG3	linear quadratic	

1.3 Mesh support of the loadings

The same ones as previously.

2 Supported loadings

No specific loading is supported by this modeling.

3 Non-linear possibilities

In the case of a calculation with the operator DYNA_NON_LINE, it is necessary to use the keyword RELATION = 'ELAS' as well as the keyword DEFORMATION=' PETIT' defined under the keyword BEHAVIOR.

4 Example of implementation: CAS-test

FDLV111B [V8.01.111]: Calculation of the absorption of a wave of pressure, created by a piston, in a fluid column.

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