

Guide of reading of methodological documentations U2

Summary

This document is an inventory of methodological documentations U2.

1 General information on the finite elements

- [U2.01.02] Note of use of the boundary conditions treated by elimination
- [U2.01.04] Documentation of the sizes of Code_Aster
- [U2.01.05] Constraints, efforts, forces and deformations
- [U2.01.09] analytical Definition of a stress field and a field of internal variables initial
- [U2.01.10] Note of use on the choice of the finite elements
- [U2.01.11] Note of use of the handling of fields

2 Use of the elements of structure

- [U2.02.01] Note of use of the voluminal elements plates, hulls, hulls SHB, grids and membranes
- [U2.02.02] Note of use of the elements TUYAU_*

3 Non-linear mechanics

- [U2.04.01] the Councils of use of STAT_NON_LINE
- [U2.04.02] the Councils of implementation of non-linear calculations
- [U2.04.03] Choice of the behavior élasto- (visco) - plastic
- [U2.04.04] Note of use of the contact
- [U2.04.07] Use of transitory methods of resolution for the strongly nonlinear quasi-static problems
- [U2.06.13] General advices of use of the operator DYNA_NON_LINE
- [U2.10.01] Note of use of the coupling between Code_Aster and the modules of laws of Zmat behavior and UMAT

4 Breaking process, tires and damage

- [U2.05.00] methodological Guide on the approaches in breaking process
- [U2.05.01] Note of use of the operators of breaking process for the classical approach (non-linear elasticity)
- [U2.05.02] Note of use of method X-FEM
- [U2.05.04] Note of use for the calculation of limiting load
- [U2.05.05] Structural analysis in fatigue vibratory
- [U2.05.06] Realization of calculations of damage into quasi-static
- [U2.05.07] Note of use of the models of cohesive zones
- [U2.05.08] Realization of a calculation of prediction of rupture per cleavage
- [U2.05.09] Note of use of method GTP

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- [U2.06.01] Implementation of a calculation of clean modes of a structure
- [U2.06.03] Note of modeling of the mechanical cushioning
- [U2.06.14] the Councils of implementation of calculations in Interaction Fluid-Structure
- [U2.08.04] Note of calculation to buckling
- [U2.09.02] Realization of the calculation of an assembly pin-attaches
- [U2.09.03] Note of use of the calculation and the postprocessing of a mechanical study according to the RCCM

6 Metallurgy and welding

- [U2.03.04] Note of use for calculations thermometallomecanic on steels
- [U2.03.05] Note of use for the digital simulation of welding

7 Civil engineer and soil mechanics

- [U2.03.06] Realization of a study civil engineer with cables of prestressing
- [U2.03.07] Panorama of the tools available to carry out structural analyses of concrete Génie Civil
- [U2.04.05] Note of use of model THM
- [U2.04.06] How to dig a tunnel: methodology of excavation
- [U2.04.08] static and dynamic Calculations on works géomechanics with the law of Hujeux

8 Earthquake

- [U2.06.07] Interaction ground-structure (ISS) in seismic analysis with the Code_Aster interface - MISS3D
- [U2.06.08] dynamic Separation of foundation in interaction ground-structure (ISS) by method of springs of ground
- [U2.06.09] seismic Analysis: application to pipings
- [U2.06.10] Realization of a study of civil engineer under seismic loading
- [U2.06.11] Analysis of the seismic behaviour of the large metal tanks
- [U2.06.12] Interaction ground-structure in seismic analysis with taking into account of space variability
- [U2.06.15] Calculation of seism resistance of the concrete dams
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- [U2.06.31] Note of modeling of the gyroscopy
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- [U2.07.06] dynamic Validation of model per correlation calculation-tests
- [U2.08.01] Use of the indicators of error and associated strategies of adaptation of grids
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