

## ZZZZ137 - Operators AFFE\_CHAR\_MECA and AFFE\_CHAR\_THER : validation of the keywords EVOL\_CHAR, PRES\_REP, FORCE\_CONTOUR

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### Summary:

The objective of this CAS-test is to validate certain keywords of the operators `AFFE_CHAR_MECA` and `AFFE_CHAR_THER`.

## 1 Principle of the test

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### 1.1 In mechanics:

- `EVOL_CHAR` : This keyword is used to apply evolutionary loadings in the time of the type `evol_char` products by `LIRE_RESU` [U7.02.01] and containing fields of pressure.
- `PRES_REP` : This keyword is used to apply a pressure to a field of continuous medium 2D or 3D, a pressure on a hull of the type `COQUE_3D` or a shearing with a field of continuous medium 2D.
- `FORCE_CONTOUR` : This keyword is used to apply linear forces, at the edge of a field of element 2D, definite component by component in the total reference mark. This contour is defined by one or more meshes or of the groups of meshes of type segment.

The loadings are applied to the top of a cylinder, blocked at its base and modelled into axisymmetric. It is checked that the solution is good with the operators `MECA_STATIQUE`, `STAT_NON_LINE`, `DYNA_NON_LINE`, `THER_LINEAIRE` and `DYNA_VIBRA`.

### 1.2 In thermics:

The objective is to validate the need expressed by the METRONOME project. For the fields corresponding to a heat exchange (`T_EXT` and `COEF_H`), one validates that calculation is possible with cards create by `CREA_CHAMP` or with fields by elements read with the format `'MED'(LIRE_RESU)`, then projected on another grid.

This documentation is voluntarily brief