

## ZZZZ 413 – Validation impression with the format MED elements under-points

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### Summary:

The objective is to validate itimpression with the format MED elements under-points. The valid case test following impressions :

- multifibre beams,
- pipes,
- multi-layer plates with and without offsetting,
- grids with offsetting.

An elastic design is carried out for each modeling in order to obtain a stress field. The position of the under-points as well as the value of the component *S<sub>11</sub>* stress field is tested, at every moment of calculation.

## 1 Problem of reference

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### 1.1 Geometry used

Without object

### 1.2 Properties of materials

Without object.

### 1.3 Boundary conditions and loadings

Without object.

### 1.4 Initial conditions

Without object.

## 2 Reference solution

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### 2.1 Method of calculating

An elastic design is carried out in order to obtain a stress field which is then printed with the format MED.

### 2.2 Sizes and results of reference

The position of the under-points as well as the values of the component `SIXX` stress field at all the under-points are tested.

### 2.3 Uncertainties on the solution

Without object. Tests of nonregression.

## 3 Modeling A

### 3.1 Characteristics of the grid

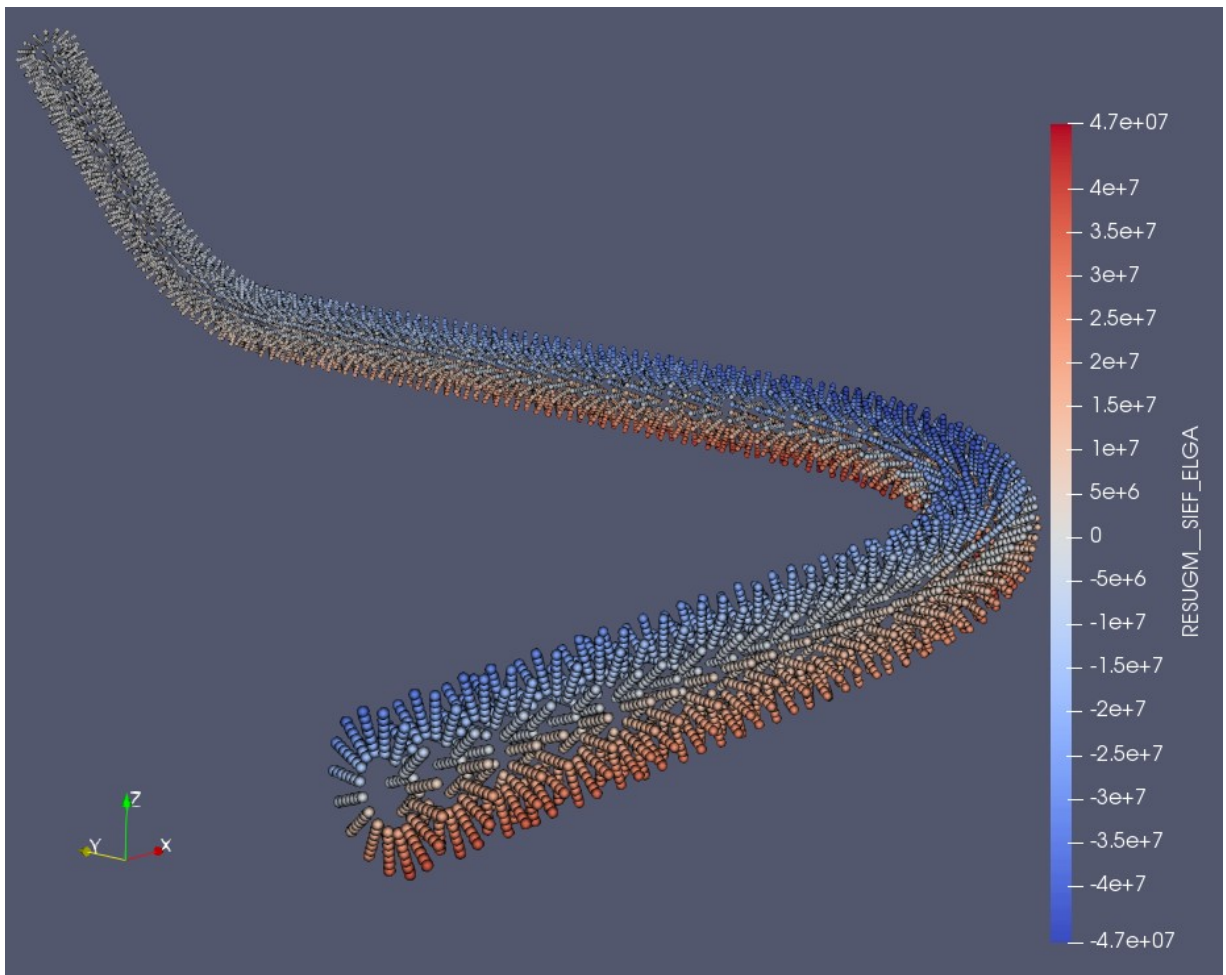
The grid is constituted by multifibre element of beam who models one pipe. The under-points of the elements of beam are defined in order to correspond to the position of the under-points of the elements pipeX who will be used with modeling B.

This test allows:

- to check the position of the under-points. The positions are given explicitly in the command file.
- to check the values of `SIXX` at all the under-points.
- by comparison with modeling B, to check the orientations, the positions of the under-points.

### 3.2 Sizes tested and results

Contents DU file MED using `TEST_FICHER`.



## 4 Modeling B

### 4.1 Characteristics of the grid

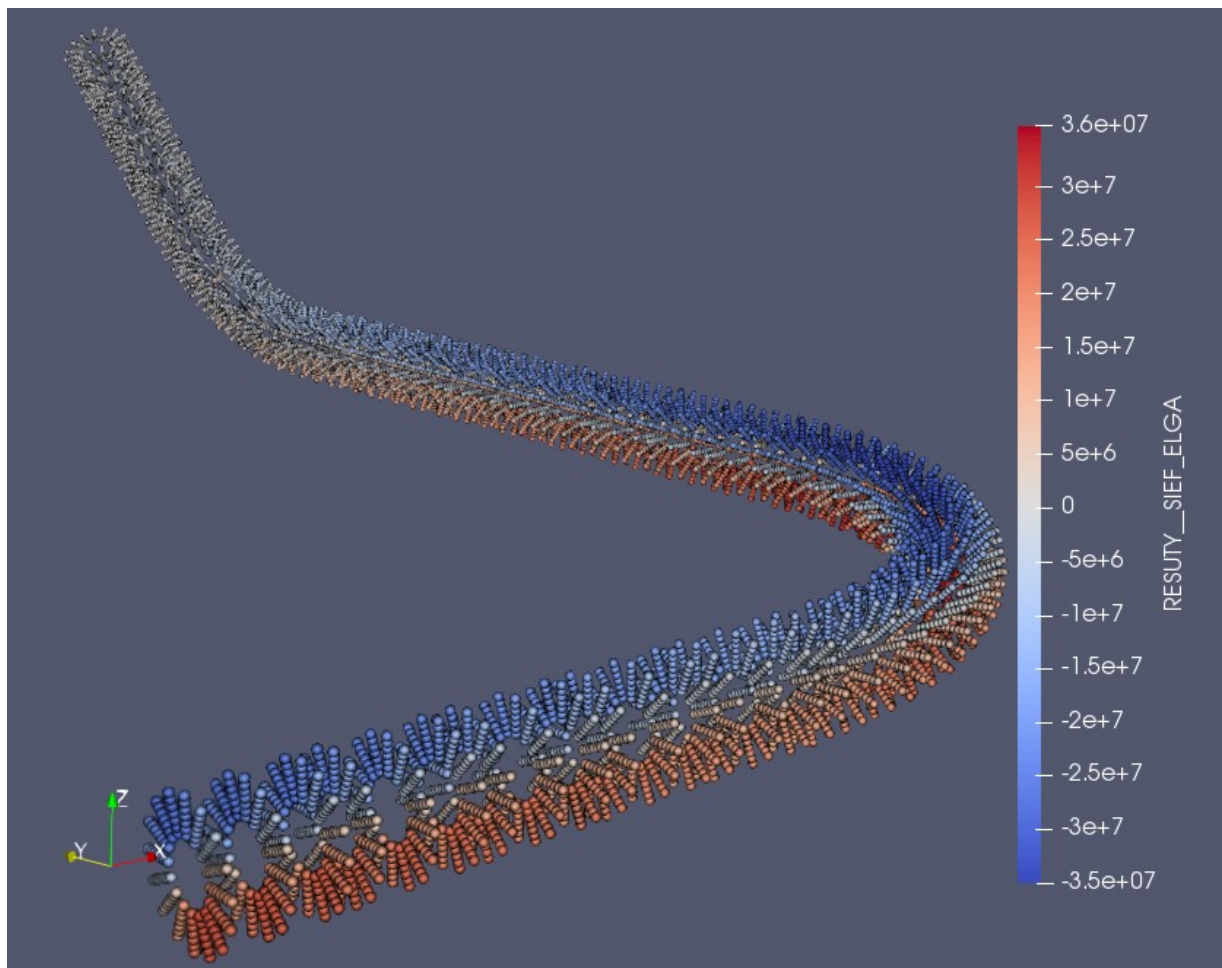
The grid is constituted by elements pipes.

This test allows:

- to check the position of the under-points. Lor position is known.
- to check the values of `SIXX` at all the under-points.
- by comparison with modeling `With`, to check the orientations, the positions of the under-points.

### 4.2 Sizes tested and results

Contents DU file `MED` using `TEST_FICHER`.



## 5 Modeling C

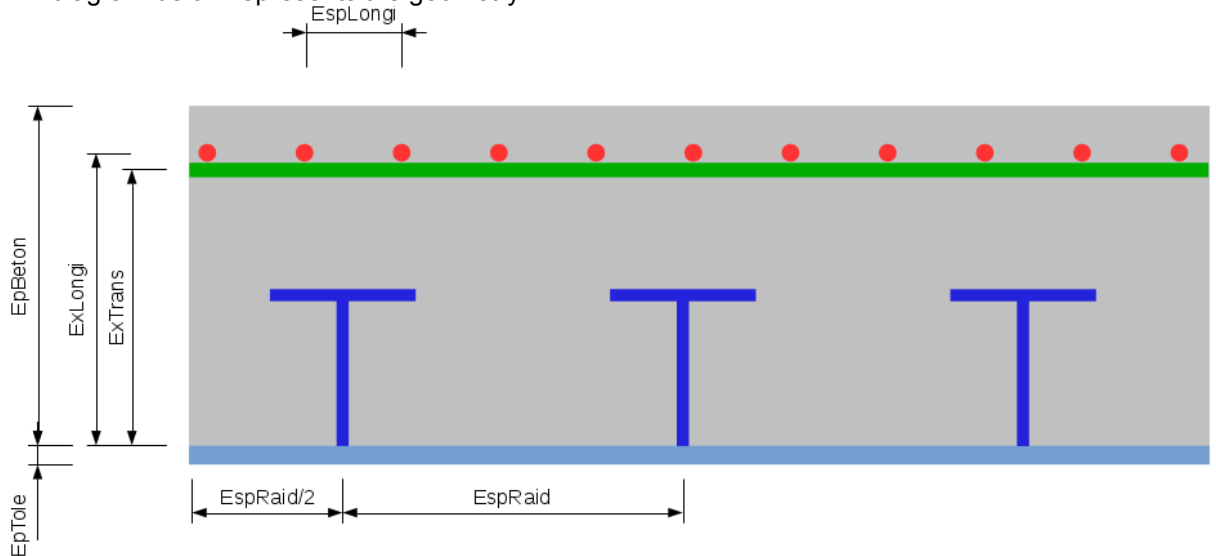
### 5.1 Characteristics of the grid

The grid is constituted by elements plates multi-layer and of elements of grids.

This test allows:

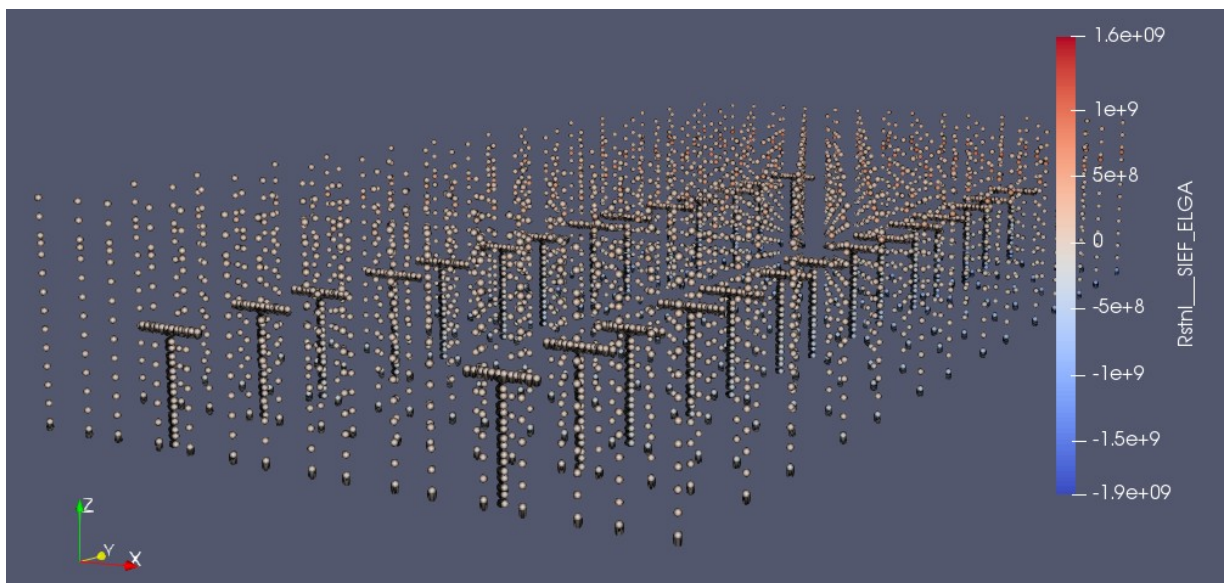
- to check the position of the under-points. Lposition of the under-points has is known.
- to check the values of SIXX at all the under-points.

LE diagram below represents the geometry.



### 5.2 Sizes tested and results

Contents DU file MED using TEST\_FICHER.



## 6 Summary of the results

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position of the under-points and the values of SIXX in conformity are expected.