Operator ASSE_MATRICE

1 Drank

To create a matrix by assembly of elementary matrixes.

The produced matrix is “hollow”; it is stored in form “Morse”.

Product a data structure of the matr_asse_* `type`.

2 Syntax

```
my  [matr_asse_*] = ASSE_MATRICE

    (  ♦MATR_ELEM     =mel  ,                    /  [matr_elem_DEPL_R]
                                                 /  [matr_elem_DEPL_C]
                                                 /  [matr_elem_TEMP_R]
                                                 /  [matr_elem_PRES_C]

       ♦NUMÉRIQUE_DDL     =nu  ,                          [nume_ddl]

       ◊CHAR_CINE     =cha  ,                    /  [char_cine_meca]
                                                 /  [char_cine_ther]
                                                 /  [char_cine_acou]
                    ◊SYME=' OUI',

       ◊INFO=/1                ,                      [DEFAULT]
                      /2  ,

    )
```

```
if MATR_ELEM      [matr_elem_DEPL_R]         then      [*]    →
DEPL_R
                  [matr_elem_DEPL_C]                              DEPL_C
                  [matr_elem_TEMP_R]                              TEMP_R
                  [matr_elem_PRES_C]                              PRES_C
```

3 Operands

3.1 Operand MATR_ELEM

♦MATR_ELEM = mel,

Name of the concept matr_elem_* to be assembled.

3.2 Classification and storage

♦NUMÉRIQUE_DDL = nu,

Specify the numbers of the equations of the assembled system and the storage of the matrix.

3.3 Operand CHAR_CINE

◊CHAR_CINE = cha,

Name of the kinematical load to be taken into account in the matrix assembled for a processing by elimination of the imposed degrees of freedom (see command AFFE_CHAR_CINE [U4.44.03]).

3.4 Operand SYME

with SYME = "OUI'

This argument can take only the value "OUI'. In this case, one forces the symmetrization of the matrix after assembly. Thus, if the matrix created by assembly **K** is NON-symmetric, the key word SYME = "OUI' makes it possible to symmetrize it and replace it by:

$$ma = \frac{1}{2}(K + K^T)$$

3.5 Operand INFO

◊INFO

Allows the printing of information on the assembled matrix

1 : no printing,
2 : printing amongst stored terms and of the coefficient of conditioning of the degrees of freedom of the type "LAGR",

4 Example

```
subdued =ASSE_MATRICE          ( NUME_DDL = nu,
                               MATR_ELEM = mel,
                             )
```

Note:

The elementary matrixes of `mel` *will be assembled according to classification* `nu` *.*

It is necessary thus that this classification takes into account ***all*** *the degrees of freedom of these elementary matrixes (in particular degrees of freedom corresponding to the dualisation of the boundary conditions). As a summary, will be done successively:*

```
mel = CALC_MATR_ELEM (OPTION = "RIGI_MECA",
                      MODELS = Mo, CHARGE = condlim,)
nu = NUME_DDL (MATR_RIGI = mel)
subdued = ASSE_MATRICE (NUME_DDL = nu, MATR_ELEM = mel,)
```