

Data structures cabl_precont

Summarized:

Description of the SD cabl_precont.

This Data format is created by the operator `DEFI_CABLE_BP` and is used in operator `"AFFE_CHAR_MECA"`.

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1 Presentation

the data structure `sd_cabl_precont` are produced by the operator `DEFI_CABLE_BP` [U4.42.04]. This operator calculates the initial profiles of tension along the cables of prestressed of one concrete structure, knowing the tension applied at the ends and other parameters characteristic of the anchorages and materials. Each cable is defined by an occurrence of the key word factor `DEFI_CABLE`.

The data structure `sd_cabl_precont` is then used by the operator `AFFE_CHAR_MECA` [U4.44.01], in order to define a mechanical loading of type `RELA_CINE_BP`, with an aim of calculating the state of equilibrium of the group concrete structure/cables of prestressing. The resolution is carried out by the operator `STAT_NON_LINE` [U4.51.03], option `COMP_INCR`.

The data structure `sd_cabl_precont` gathers an array, an elementary card (card of the initial stresses) and a list of relations (kinematic relations between the DDL of the nodes of cables and the DDL of their nodes "close" to concrete structure).

2 Data format

2.1 Tree structure

```
cabl_precont (K8):: = record
```

```
  (O)  ".CHME.SIGIN"      :   SD carte_SIEF_R
  (O)  "(11)"             :   SD counts
  (O)  ".LIRELA"         :   SD liste_rela
```

the array associated with the SD `cabl_precont` contains the 10 following parameters:

```
"NUMC_CABLE"           I
"NOEUD_CABLE"          K8
"ABSC_CURV"            R
"ALPHA"                R
"TENSION"              R
"MAILLE_BETON_VOISINE" K8
"NOEUD_BETON_VOISIN"  K8
"INDICE_IMMERSION"     I
"INDICE_PROJECTION"    I
"ECCENTRICITY"         R
"NUM_CABLE"            K8
```

the SD array is described in [D4.02.05].

Object ".CHME.SIGIN"

the card (constant field by mesh) associated with the SD `cabl_precont` has as a denomination

```
CABL_PR (K8)/".CHME.SIGIN"
```

and represents the quantity `SIEF_R`.

The SD card is described in [D4.06.05].

Object ".LIRELA"

the list of relations (SD liste_rela) to the SD cabl_precont has as a denomination

CABL_PR (K8) / ".LIRELA"

the SD liste_rela is described in [D4.06.13].