

template

HEADING BLOCK(1 LINE)

(1)TITLE LINE UP TO 80 CHARACTERS

CONTROLBLOCK (1 LINE) WITH THE FOLLOWING PARAMETERS:

NUMNP NUMEL NUMAT NINCR IATYPE MXDOFDIM MXNE MXDOFEL NSVARS IPROB

(1)NUMNP : NUMBER OF NODAL POINTS(I5)

(2)NUMEL : NUMBER OF ELEMENTS(I5)

(3)NUMA : NUMBER OF MATERIAL PROPERTIES(I5)

(4)NINCR : NUMBER OF LOAD INCREMENTS(I5)

(5)IATYPE : ANALYSIS TYPE(I)

IATYPE=2 FORCE CONTROLLED PROBLEM

IATYPE=1 DISPLACEMENT CONTROLLED PROBLEM

(6)MXDOFDIM: MAXIMUM DEGREE OF FREEDOM DIMENSION(I5)

MXDOFDIM=2 FOR 2D ELASTICITY

MXDOFDIM=3 FOR 2D NEAR INCOMPRESSIBLE ELASTICITY

(7)MXNE : MAXIMUM NUMBER OF NODES IN ANY ELEMENT(I2)

(8)MXDOFEL : MAXIMUM NUMBER OF DEGREES OF FREEDOM PER ELEMENT(I2)

(9)NSVARS : MAXIMUM NUMBER OF PROBLEM STATE VARIABLES PER ELEMENT(I5)

EXAMPLE ;

FOR A 8 NODDED ELEMENT WITH 3X3 GAUSS INTEGRATION IN ISOTROPIC

ELASTICITY IN PLANE STRAIN: 4 STRESS COMPONENTS TIMES 9

G.POINTS=36 SVARS

4 STRAIN COMPONENTS TIMES 9

G.POINTS=36 SVARS

TOTAL

72 SVARS/ELEMENT

(10)IPROB : RESULTS PRINTING MODE

IPROB=1 TREATS THE PROBLEM LIKE A GENERAL PROBLEM AND PRINTS

RESULTS IN TERMS OF

STATE VARIABLES

IPROB=2 TREATS THE PROBLEM LIKE A ELASTICITY PROBLEM AND PRINTS

RESULTS IN TERMS OF

STRESSES AND STRAINS

NODAL INFORMATION BLOCK(NUMNP LINES) WITH THE FOLLOWING PARAMETERS

ID NDOF BC1 BC2....BCNDOF COORD1 COORD2

(1)ID : NODAL ID (I5)

(2)NDOF : NUMBER OF DEGREES OF FREEDOM AT THIS NODE(I5)

(3..NDOF) BC1..BCNDOF : BOUNDARY CONDITION CODE AT EVERY DEGREE OF FREEDOM (NDOF VALUES-I2)

BCI=0,1,-1

0 FREE

1 RESTRAINED

-1 IMPOSED DIFFERENT FROM ZERO

(NDOF+1)COORD1 : X-COORDINATE (F10.5)

(NDOF+2)COORD2 : Y-COORDINATE (F10.5)

MATERIAL INFORMATION BLOCK(NUMAT LINES) WITH THE FOLLOWING PARAMETERS

ID NUMMATP PROP(1) PROP(2).....PROP(NUMATP)

(1)ID : MATERIAL PROPERTY ID (I5)

(2)NUMATP : NUMBER OF PROPERTIES FOR THIS MATERIAL (I5)

(3)PROP(I) : MATERIAL PROPERTY I(F12.5)

ELEMENTS INFORMATION BLOCK(NUMEL LINES) WITH THE FOLLOWING PARAMETERS

ID EL_TYPE NDOFEL MAT_TYPE NNE NODE1 NODE2.....NODE_NNE

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(1)ID          : ELEMENT ID (I5)
(2)EL_TYPE     : ELEMENT TYPE(I1)
                  (1) 8-NODED QUAD. DISPLACEMENT BASED-ELASTOPLASTIC
MATERIAL-PLANE STRAIN
                  (2) 9-NODED QUAD. DISPLACEMENT BASED-ELASTOPLASTIC
MATERIAL-PLANE STRAIN
                  (3) 6-NODED TRIA. DISPLACEMENT BASED-ELASTOPLASTIC
MATERIAL-PLANE STRAIN
(3)NDOFEL      : NUMBER OF DEGREES OF FREEDOM FOR THIS ELEMENT(I5)
(4)MAT_TYPE     : MATERIAL ID CORRESPONDING TO THIS ELEMENT AS DEFINED IN THE
MATERIAL DATA BLOCK(I5)
(5)NNE         : NUMBER OF NODES FOR THIS ELEMENT(I5)
(6)NODE(I)      : NODAL CONNECTIVITY LIST(I5)-NNE VALUES

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LOADS INFORMATION BLOCK(NPDIS+NPLOADS+NSUR_LOADS+1 DATA LINES) WITH THE FOLOWING
PARAMETERS

NPDIS NPLOADS NSUR_LOADS

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(1)NPDIS      : NUMBER OF IMPOSED DISPLACEMENTS INCLUDING CONSTRAINTS(I5)
(2)NPLOADS    : NUMBER OF POINT LOADS(I5)
(3)NSUR_LOADS : NUMBER OF SURFACE LOADS(I5)
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(NPDIS lines if NPDIS<>0)

ID_node	ID_dof	DIS_mag
	ID_NODE:	NODAL ID WHERE THE DISPLACEMENT IS BEING IMPOSED
	ID_DOF :	DIRECTION OF DISPLACEMENT APPLICATION 1-X 2-Y
	DIS_MAG:	MAGNITUDE OF THE APPLIED DISPLACEMENT

(NLOADS lines if NLOADS<>0)

ID_node ID_dof PLO_mag
(NSUR_LOADS lines if NPLOADS<>0)
ID_el ID_face SLO_mag