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FINISH
/CLEAR
C*****
C***
C*** TUBO INTERRATO IN PRESSIONE IN MATERIALE COMPOSITO
C***
C*** PARAMETRI
C***
/PREP7
D=800
SP=9
L2=4*D
N1=10
L1=0.1*D
N2=20
NC=12
RR=5
E1=0.0025
E2=0.14
ANG1=105
ANG2=15
SRPT=600
SRPC=650
SROT=30
SROC=90
SRT=45
TETA=60
SPL=0.25
NL=NINT(SP/SPL)
*IF,NL,GT,NINT(NL/2)*2,THEN
    NL=NL+1
*ENDIF
PMX=1800*9.81*2.5/1E6
C***
C*** NODI
C***
CSYS,1
N,1,D/2,-90
N,NC+1,D/2,90
FILL,1,NC+1
NGEN,N1+1,NC+1,1,NC+1,,0,0,L1/N1
NGEN,N2+1,NC+1,(NC+1)*N1+1,(NC+1)*(N1+1),,0,0,L2/N2,RR
C***
C*** ELEMENTI
C***
ET,1,99
R,1,NL,0,,0,
RMORE
*DO,IJK,1,NL/2
RMORE,1,TETA,SPL,1,-TETA,SPL
*ENDDO
R,2,NL,0,,E1
RMORE
*DO,IJK,1,NL/2
RMORE,1,TETA,SPL,1,-TETA,SPL
*ENDDO
R,3,NL,0,,E2
RMORE
*DO,IJK,1,NL/2
RMORE,1,TETA,SPL,1,-TETA,SPL
*ENDDO
E,1,NC+2,NC+3,2
EGEN,NC,1,1

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EGEN,N1+N2,NC+1,-NC
EMID,ADD

C***
C*** CAMBIA GLI ATTRIBUTI AD ALCUNI ELEMENTI
C***
NSEL,,LOC,Y,-90+ANG2-0.001,-90+ANG1+0.001
ESLN,,1
EMODIF,ALL,REAL,2
NSEL,,LOC,Y,-90-0.001,-90+ANG2+0.001
ESLN,,1
EMODIF,ALL,REAL,3
ALLS
C***
C*** CARICHI
C***
SFGRAD,PRES,1,Y,90,PMX/90
NSEL,,LOC,Y,-0.001,90.001
ESLN,,1
SFE,ALL,1,PRES,,PMX
ALLS
C***
C*** MATERIALE
C***
MP,EX,1,38000
MP,EY,1,9000
MP,EZ,1,9000
MP,PRXY,1,0.3
MP,PRYZ,1,0.3
MP,PRXZ,1,0.3
MP,GXY,1,3300
MP,GXZ,1,3300
MP,GYZ,1,3300

TB,FAIL,1,1
TBTEMP,,CRIT
TBDATA,3,1
TBTEMP,20
TBDATA,10,SRPT,,SROT,,SROT,
TBDATA,16,SRT
C***
C*** VINCOLI
C***
CSYS,0
NSEL,,LOC,X,-0.1,0.001
DSYMM,SYMM,X
NSEL,,LOC,Z,-0.1,0.001
D,ALL,ALL
ALLS

FINISH
/SOLU
SOLVE
FINISH
/POST1
C***
C*** OPZIONI DI RAPPRESENTAZIONE
C***
C*** scelta oggetti da rappresentare
/PBC,ALL,,1
/PBC,NFOR,,0
/PBC,NMOM,,0
/PBC,RFOR,,0

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/PBC,PATH,,0
/PNUM,NODE,0
/PSF,PRESS,NORM,2
ALLS
C*** scelta punto di vista
/VIEW,,-0.3,0.2,-1
C*** scelta disposizione finestra/legenda
/PLOPTS,INFO,2
C*** scelta colori
/COLOR,PBAK,OFF
C*** struttura con vincoli e carichi
/TITLE,MODELLO
ESEL,ALL
EPLOT
*ASK,IFL,PREMERE RETURN PER CONTINUARE,0
C*** deformata
/PBC,ALL,,0
/PSF,PRESS,NORM,0
/PNUM,NODE,0
/TITLE,DEFORMATA
/VIEW,,0.3,0.3,-0.5
PLDISP,1
*ASK,IFL,PREMERE RETURN PER CONTINUARE,0
C*** caratteristiche di sollecitazione
ETABLE, TSAIWU, NMISC, 2          ! estrae il dato "tensione equivalente di
Tsai-Wu" dal data base
/TITLE,PARAMETRO DI DANNEGGIAMENTO - TASI-WU
/GLINE,,-1
PLETABLE, TSAIWU,AVG          ! rappresenta la forza normale
*ASK,IFL,PREMERE RETURN PER CONTINUARE,0
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