

## 6.9 Example I: A User Defined RVE

### Sample Input File For A User Defined RVE

The following example is used to explain how to enter a user defined architecture.

#### Problem Summary:

Load Type:	Mechanical
Load History:	Monotonic
Load Control:	Strain
Load History Data:	$\dot{\epsilon} = 0.1 \text{ /sec}$ , $\epsilon_{max} = 0.01$ , $\Delta t_{constant} = 0.1 \text{ sec}$
Micromechanics model:	Double periodic
Fiber Packing Arrangement:	Random composite (see figure 13)
Integration Algorithm:	Forward Euler
Constituent Material Model:	Bodner-Partom
Constituents:	Fiber: Boron Matrix: Aluminum (6061-0a)

random composite rve using 2-d gmc  
\*PRINT  
  NPL=-1 %  
\*LOAD  
  LCON=2 LOP=2 LSS=1 %  
\*MECH  
  NPTW=2 TI=0.,0.1 LO=0.,0.01 %  
\*MODEL  
  MOD=1 %  
\*SOLVER  
  NTF=1 NPTS=2 TIM=0.,0.1 STP=0.00005 %  
\*FIBER  
  NFIBS=1  
  NF=1 MF=6 NDPT=1 TEMP=21. MAT=A %  
\*MATRIX  
  NMATX=1  
  NM=1 MM=1 NDPT=1 TEMP=21. MAT=C %  
\*MRVE  
  IDP=99  
  NB=14 NG=14  
  H=1.,1.,1.,1.,1.,1.,1.,1.,1.,1.,1.,1.  
  L=1.,1.,1.,1.,1.,1.,1.,1.,1.,1.,1.,1.  
  CM=F1,M1,M1,M1,M1,M1,F1,F1,M1,M1,F1,F1,M1,F1  
  CM=F1,M1,F1,F1,M1,M1,F1,F1,M1,M1,M1,M1,M1,F1  
  CM=M1,M1,F1,F1,M1,M1,M1,M1,M1,M1,M1,F1,F1,M1,M1  
  CM=M1,M1,M1,M1,M1,M1,M1,F1,F1,M1,F1,F1,M1,M1  
  CM=M1,M1,F1,F1,M1,M1,M1,F1,F1,M1,M1,M1,M1,M1  
  CM=F1,M1,F1,F1,M1,M1,M1,M1,M1,F1,F1,M1,F1,M1  
  CM=F1,M1,M1,M1,M1,F1,F1,M1,M1,M1,F1,F1,M1,F1  
  CM=M1,M1,M1,M1,M1,F1,F1,M1,M1,M1,M1,M1,M1,M1  
  CM=M1,F1,F1,M1,M1,M1,M1,F1,F1,M1,F1,F1,M1  
  CM=M1,F1,F1,M1,F1,M1,M1,F1,F1,M1,F1,F1,M1  
  CM=M1,M1,M1,M1,F1,F1,M1,M1,M1,M1,M1,M1,M1  
  CM=F1,F1,M1,M1,M1,M1,F1,F1,M1,M1,M1,M1,F1,F1,M1  
  CM=F1,F1,M1,M1,M1,M1,M1,M1,M1,M1,M1,F1,F1,M1  
  CM=M1,M1,M1,M1,M1,M1,M1,M1,M1,M1,F1,F1,M1,M1  
\*CURVE  
  NP=1 %  
\*MACRO  
  NT=1  
  NC=1 X=2 Y=8 NAM=apdxi %  
\*END

