CLAIMS

1. A method for manufacturing a SiC-Si_3N_4 composite material, the method comprising steps of:

preparing a mold (template); and

forming the SiC-Si_3N_4 composite material by introducing a source gas containing Si, N, and C on the mold (template) at 1100 to 1600°C,

wherein the Si_3N_4 in the SiC-Si_3N_4 composite material is 10 to 70% by volume.

2. The method of claim 1, wherein when a nitrogen (N) component and a carbon (C) component of nitrogen (N) and carbon (C) source gases among the source gases introduced are 1 : 1, a N source/C source ratio is 0.4 to 2.

3. The method of claim 1, wherein the SiC-Si_3N_4 composite material has a thermal shock strength of 500 to 860°C.

4. The method of claim 1, wherein the SiC-Si_3N_4 composite material has a thermal shock strength of 600 to 860°C, and the Si_3N_4 in the SiC-Si_3N_4 composite material is 40 to 70% by volume.

5. The method of claim 1, wherein the step of forming the SiC-Si_3N_4 composite material is performed by a CVD method.

6. A SiC-Si_3N_4 composite material comprising SiC and Si_3N_4 and having a thermal shock strength of 600 to 860°C, and the Si_3N_4 in the SiC-Si_3N_4 composite material is

10 to 70% by volume.

7. The $SiC-Si_3N_4$ composite material of claim 7, wherein the $SiC-Si_3N_4$ composite material is a mixture of amorphous SiC crystal grains and Si_3N_4 crystal grains having a needle-shaped structure.

8. The $SiC-Si_3N_4$ composite material of claim 7, wherein when the Si_3N_4 in the $SiC-Si_3N_4$ composite material has a volume ratio of 68 to 70% by volume, the Si_3N_4/SiC main peak has a diffraction intensity ratio of 0.2 to 1.5.

9. The $SiC-Si_3N_4$ composite material of claim 7, wherein the $SiC-Si_3N_4$ composite material is manufactured according to the method of claims 1, 2, and 4 to 6.