

**ANSYS Class3 Error Report****ERROR NO:**

2012-27

**Keywords:**

EQSLV , PCG

MSAVE

THERMAL

TABULAR LOAD

**Description of Error:**

The solution may be incorrect when all of the following conditions are met:

- The PCG solver is chosen [EQSLV,PCG].
- The memory-saving option for the PCG solver is on [MSAVE,ON]. See below for cases when this condition is set automatically.
- Temperature-dependent material properties are used.
- Non-uniform temperature loading is specified via tabular thermal boundary conditions.

When these conditions are met, ANSYS incorrectly detects the non-uniform temperatures. If any elements exist that meet the MSAVE criteria and have temperature-dependent material properties, then the stiffness for these elements may be incorrect. For further information on the MSAVE requirements, please refer to the MSAVE command documentation in the ANSYS Commands Reference.

**Typical GUI Path(s):****Other Comments:**

In pre-9.0 versions of ANSYS, the memory-saving option for the PCG solver is off by default. Therefore, for condition (2) above to be met in these versions, you must issue MSAVE,ON. In the 9.0 and post-9.0 versions of ANSYS, the memory-saving option for the PCG solver is turned on by default when small strains are assumed

[NLGEOM,OFF] for any SOLID92/95/186/187 element that meets the specific MSAVE requirements (i.e., default element coordinate system, uniform temperatures, etc.). Therefore, condition (2) may occur automatically with these versions of ANSYS. For further information on the MSAVE requirements, please refer to the MSAVE command documentation in the ANSYS Commands Reference.

**First Incorrect Version:**

Release 5.6

**Corrected In:**

Release 15.0

**Suggested User Action For Running on Uncorrected Version:**

Choose one of the following options to avoid this situation:  
Explicitly turn the memory-saving option for the PCG solver off  
[MSAVE,OFF].

or

Choose a different solver, such as the Sparse solver  
[EQSLV,SPARSE].

**Author Signature:**

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