

## Modeling and Simulation of the stress generation involved in producing multi-layer assemblies from Controlled Expansion (CE) alloy materials

### Objectives:

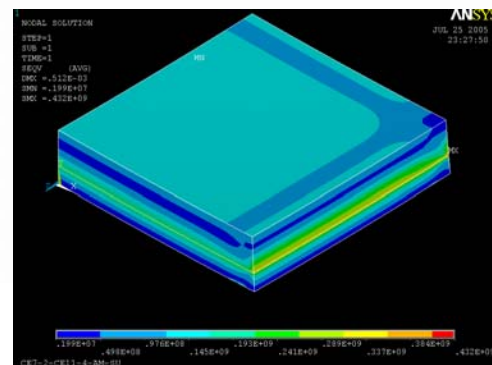
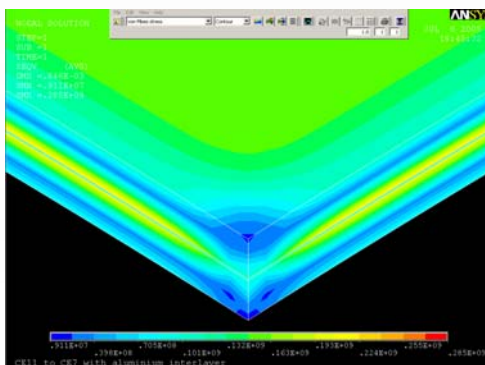
- Development of behavioural models for laminar CE alloy assemblies, including options utilising Aluminium interlayers.
- Build analysis model representations of existing CE alloy and Aluminium assemblies
- Develop materials library for use in future analysis for further use within PATENT
- Assess the validity of the models generated through comparison with physical prototypes.
- Highlight limitations and make recommendations for future developments

### Partners involved:

- Centre for Rapid Design and Manufacture (CRDM Ltd)

### Industrial Assistance:

- Sandvik Osprey Ltd (Physical prototype manufacture and measurement)



(screen captures of deformation plots, the result of thermal loading)

### Offer to industry:

- Behavioural models for stress generation and deformation due to manufacture, and in service thermal cycling

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**Project status:** All initial development and analysis completed, requirements outlined for future developments