

Modeling Automotive Composite Structures Using LS-DYNA

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ABSTRACT

Various composite components have been developed for vehicle applications. Depending upon their applications, the major loading modes may vary from one component to another. While the material anisotropy and the tendency to brittle fracture present challenges for constitutive models for composites in general, a reasonable prediction may be achieved for a specific application. All materials models have merits as well as limitations. This presentation discusses the composite material models in LS-DYNA simulations through three examples: a B-Pillar structure, a hood structure and a tubular structure representing the front rail application.