COMPOSITE ANALYSIS USING SDRC SUPERTAB AND MSC/NASTRAN

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ABSTRACT

With requirements of reducing mass in many industrial applications, composites have gained a great amount of attention in recent years. With respect to milling machines, requirements of high traverse speeds and low inertia have led designers to look at laminate materials to increase rigidity and minimize mass during machining operations.

This paper describes a new interactive approach in composite analysis modeling using SDRC Supertab and interface with MSC/NASTRAN related to a milling machine beam and other industrial examples.

All phases of modeling, analysis, and post processing will be considered graphically to digest the vast amount of information involved in laminate analysis. Some of these phases include methods for creation of ply properties, definition of laminate, creation of finite element mode, failure envelope representation, and post processing stresses, strains, and failure indexes.