

## ***“The Blast Energy Absorption with New Material 3D Composite”***

### **Cedrem sarl**

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### **Abstract:**

A new 3D composite material is developed to protect vehicles or other structures against the blast. We optimize the shape of the structure and its material to absorb energy.

This material brings a structural stiffness in the plane of fabric. In the third direction this material has bridges to absorb the blast pressure wave. To optimize this material, we chose to simulate the behavior of this material with mixed mesh « shell and spring » (with HyperMesh).

This article will explain several simulations with RADIOSS and the result of material manufacturing.

### **Keywords:**

- RADIOSS
- Composite
- Optimization