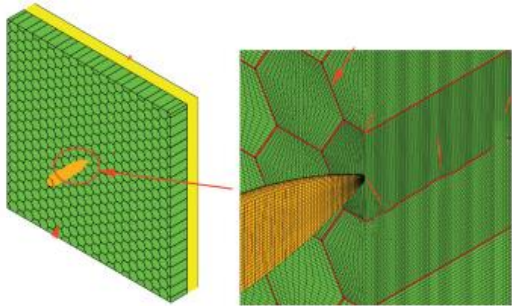


Performance analysis of armor plates due to impact from bullets

About the Client

The client is one of the premier defense research and design organizations.



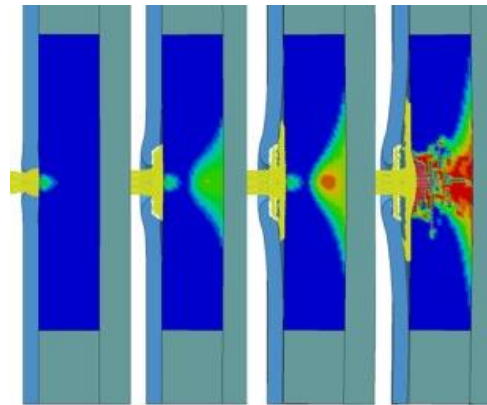
The Challenge

The client called for investigation into the armor configuration that was supposed to be built using ceramic and composite materials. The range of bullet sizes, speed and orientation were considered for the performance study of armor plate design.

The Solution

The geometry of the armor was very simple to study. The complexity of the project was to model the material combinations appropriately. The DEP team picked an appropriate solver and material model that could help analyze the armor hit by bullets at different speed and orientation. The objective was to study the rupture in the armor, bullet

stopping distance and bullet performance, speed reduction and thus plan out the ideal armor configuration. The material failure models were studied in detail before implementing them for these studies.



The Result

DEP team expertise and domain knowledge helped customers realize the benefit that virtual validation would bring to analyzing and visualizing the performance of the armor. This investigation which was completed in a short span of time, formed the critical basis for planning out the next steps of activities.

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