

Making the (reactive) case for explosives science

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A "reactive case" is a new concept in explosives science currently being tested at Los Alamos National Laboratory. A reactive case would do more than just contain an explosive, but rather become part of the explosive event itself, actually enhancing or boosting the explosion while decreasing far-field fragmentation damage. Advancing fundamental explosives science by testing entirely new ideas like this is a key component of the Laboratory's national security mission.

This video shows an explosive experiment test of a "reactive case" concept based on an aluminum composite material conceived of and developed by the Laboratory's Explosive and Shock Physics Division.

The first detonation in the video is of a baseline aluminum case, made from machined aluminum, and the the second detonation is of the reactive case at approximately the same time scale in explosive expansion.

Both shots utilized a Los Alamos developed high-energy "cast-cured" plastic bonded explosive. The experiments were performed in a semi-enclosed steel pipe, which allows for the [aluminum](#) case in the baseline experiment to re-light upon impact with the steel walls, yielding the luminescent ring observed in the video.





Provided by Los Alamos National Laboratory

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