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*Thermite -- Might Not*

The purpose of my science fair project was to explore the power of thermite. Thermite is a substance typically used for industrial or underwater welding. It is composed of two grams of iron oxide (red) to every one gram of fine grain aluminum powder. The question is: Can thermite really burn through two pieces of 1/16th inch thick steel sheet metal? The conclusion I came to is: Yes, it can. My procedures spanned three trials. For each trial I thoroughly mixed iron oxide and aluminum powder in the above proportions, placed them in a container, and ignited the mixture with magnesium ribbon. My first two trials were performed using a flower pot as a container; this proved ineffective and did not result in damage to the sheet metal. After further research to investigate other methods of containing the thermite mixture, I concluded that the appropriate container would be a tin beverage can (250 ml size). When I performed the final experiment with the new containment method, the results confirmed my hypothesis and burned through both pieces of sheet metal.