

## **Microstructural evolution of AISI 430 stainless steel plates subjected to repeated blast loading.**

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Structures deform at high strain rates and temperatures when exposed to blast loads. Macro-structural changes such as inelastic deformation and tearing are accompanied by microstructural changes i.e., grain morphology and shear banding that occur. Most studies hitherto report on macroscopic response, i.e., large inelastic deformation and tearing of the structure, while limited studies have reported on microscopic changes that develop in the structure. The microstructure is directly related to the mechanical properties and performance of the material. Therefore, understanding the effect of high strain rate loadings on the microstructural evolution and corresponding mechanical property changes of metals and alloys is necessary for mechanical design.