# Implementation of AMR in Multi-Material ALE Hydrocodes

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The transformation of an existing multi-material hydrocode to allow dynamic adaptive mesh refinement (AMR) is a complex undertaking requiring understanding of both algorithms as well as implementation and design issues. I will discuss a recent project of this type involving a multi-material hydrodynamics model including multi-material zones with interface reconstruction, material strength, sliding surfaces, and reactive flow in an ALE formulation. The solved and unsolved problems associated with performing AMR in this context will be surveyed.