ADVANCED MATERIALS

Advanced High-Strength Steels III

The demand for fuel economy and lightweighting, without compromising passenger safety, has yielded new innovations in advanced high strength steels (AHSS). This symposium focuses on the latest developments in AHSS, ranging from low-carbon and conventional grades like high-strength low alloy (HSLA) steels, to AHSS grades like dual-phase (DP), transformation-induced plasticity (TRIP), complex phase (CP), and martensitic steels, to second-generation AHSS grades like twinning-induced plasticity (TWIP) steels, to emerging third-generation AHSS grades, such as quenching and partitioning (Q&P), TRIP-assisted bainitic ferrite (TBF), medium-Mn, and low-density steels, for example. This symposium invites experimental and modeling contributions from industry, academia, and government that further our understanding of alloying, processing, microstructure, property, and performance relationships in AHSS.

Topics of interest include:
- alloy, process, and microstructural design
- plasticity and damage
- hydrogen and liquid metal embrittlement
- multi-scale, advanced characterization and modeling of AHSS

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