Dynamic compressive behaviour of cellular materials: a review of phenomenon, mechanism and modelling

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Highlights

- Dynamic plastic properties, deformation modes, constitutive relations and shock states are described
- Experimental observations in the quasi-static, transitional dynamic and shock regimes are presented
- Mechanisms associated with inertia, enclosed gas and microscopic strain-rate sensitivity of base material are elucidated
- Mesoscopic modelling and its applications are discussed with regard to idealised and realistic cell structures
- Macroscopic continuum-based modelling for compression-dominated loading is summarised and commented