

RATCHETTING FATIGUE IN PIPING MATERIALS

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Ratchetting fatigue is one of the life limiting deformation phenomenon in pressure vessel and piping components. This paper presents the ratchetting fatigue behaviour of piping materials employed in nuclear industries. Reliable methods for evaluating ratchetting fatigue life are discussed. Interaction of ratchetting with other deformation modes (e.g., low cycle fatigue, tensile) is presented. A unified model based on a kinematic hardening rule has been developed that can predict both low cycle fatigue as well as ratchetting life.
