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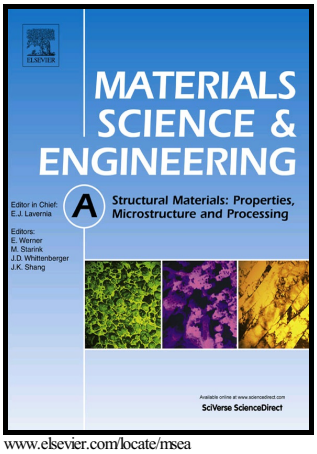

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A Study on Tensile Properties of Alloy 709, at various temperatures

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Abstract

In recent years, there have been several advancements in energy production from both fossil fuels and the alternate "clean" sources such as nuclear fission. These advancements are fueled by the need for more efficient systems that will optimize the use of the depleting fossil fuel reserves and shift the focus to cleaner sources of energy. The efficiency of any power generation cycle is dependent on the ability of the structural material to withstand the increased peak operating temperatures. Advanced austenitic stainless steels have been in the focus as structural material for the next generation nuclear power plants, due to their strength, corrosion resistance, weldability and the wide range of temperatures at which the austenitic phase is stable. Alloy 709, a recently developed advanced austenitic stainless steel, is being investigated in this paper. In