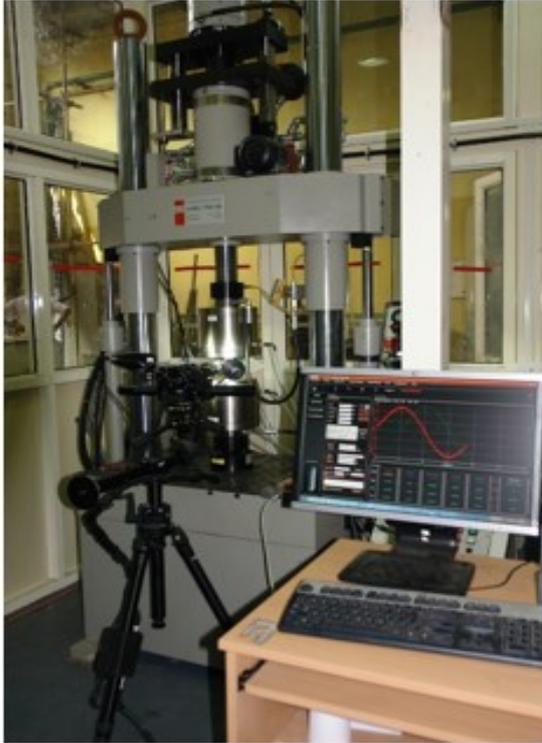


MULTIAXIAL FATIGUE TEST FACILITY: TENSION-TORSION MACHINE

Facility Description:

This machine has two independent actuators in axial and torsion directions. Pure axial, pure torsion and combined axial-torsion tests can be conducted at room temperature. In addition, an internal pressure can also be applied in tube type specimens to investigate synergistic damage under ratcheting-fatigue loading. This machine is aimed at improved assessment of fatigue damage under multiaxial fatigue cycling.



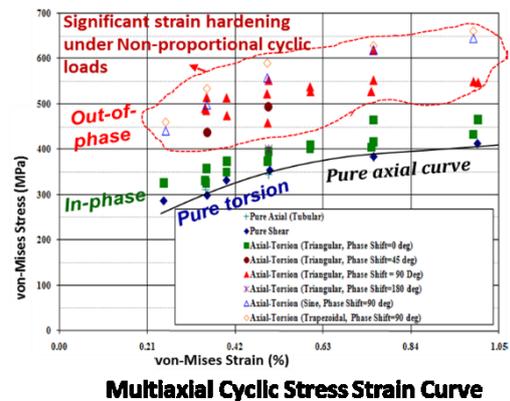
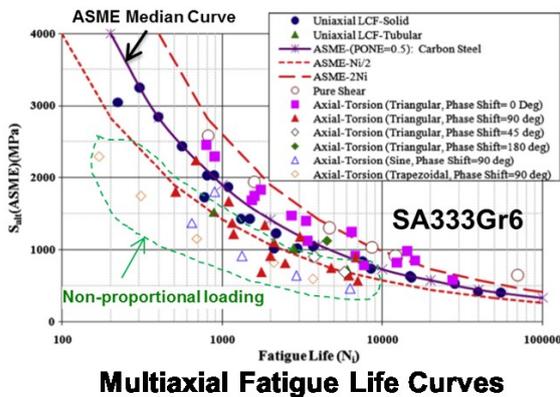
Biaxial Extensometer



Tested Sample

Typical Test Results:

Development of multiaxial fatigue life curves for PHWR/AHWR PHT piping material



The above figures show that under multiaxial non-proportional loading the fatigue tests have showed significant strain hardening as well as reduction in the fatigue life when compared with corresponding uniaxial LCFs.