

# BISS LABS

## Reliability and reproducibility in mechanical testing

Automotive, Aerospace & Energy sectors

### Quality with experience...

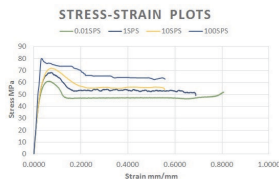
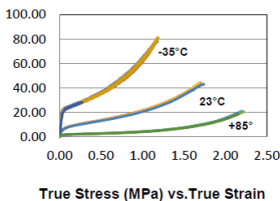
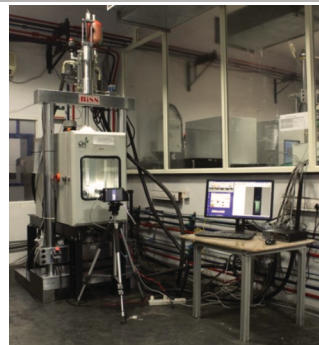
BISS Labs, the state-of-art mechanical testing facility, is located in-house BISS, Bangalore. Over 30 servo-hydraulic Universal Testing Machines and several customized rigs for testing, serve a wide front of testing services to Aerospace, Automotive and Energy sectors such as Oil & Gas, Wind energy and Nuclear energy. The testing services deal with evaluation of Mechanical properties of coupons to components and full-scale testing under simulated service load environment.

BISS LABS are certified as per ISO/IEC 17025:2005 by NABL in Mechanical Testing since 2012 in 30 disciplines as per International Standards ASTM and ISO. BISS LABS are also certified by NADCAP-NM since 2013 in Mechanical Testing of composites.

Over the years of its existence, BISS labs has pioneered in providing precise and reliable test data to Industries and Academia. BISS Labs has graduated to provide test status and results on-the-go via BISS IoT applications.

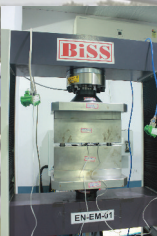
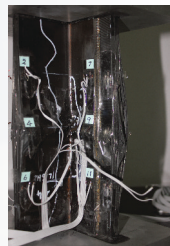
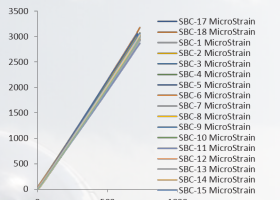
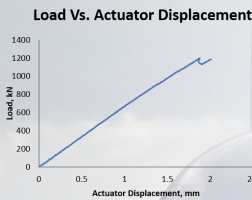
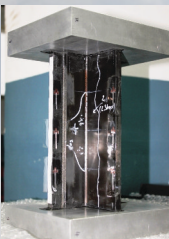
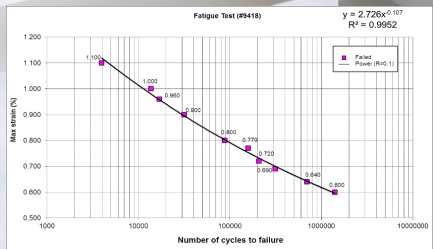
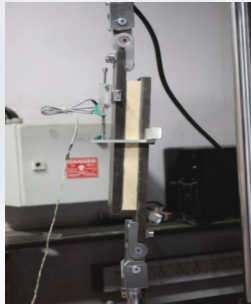
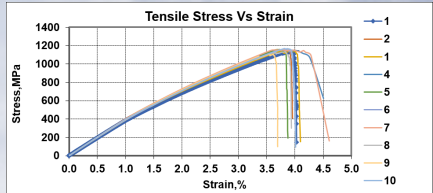
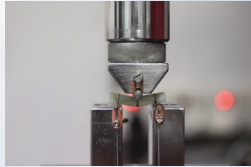
### High Strain Rate Testing using DIC

- DIC based strain measurement
- Rated Speed:1500 mm/s
- Environmental Chamber: -40 °C to +150 °C

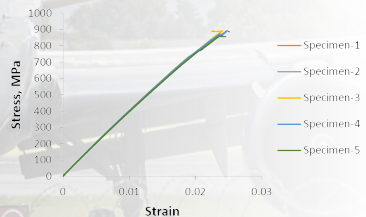


# Composite Materials (GFRP & CFRP)

- Tensile Test as per ASTM 3039/ISO 527-4
- Fatigue Tet as per ISO 13003
- Short Beam Interlaminar shear test as per ASTM D2344
- Tensile Shear Test as per ISO 14129
- Shear Test as per ASTM D5379
- Compression Test as per ASTM D3410/ISO 14126
- Compression Test as per ASTM D6484
- Peel Test as per ASTM D1781
- Cracked sandwich Beam test as per ASTM C393
- Face wrinkle Test as per ASTM C393

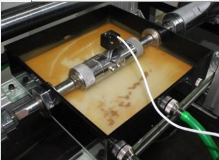
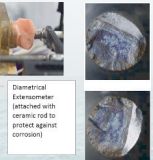
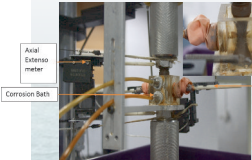
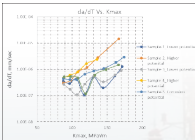
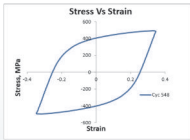
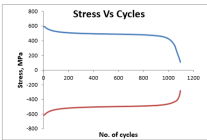
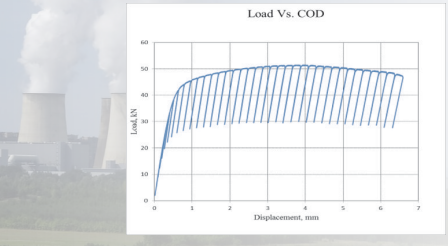
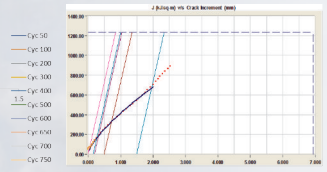
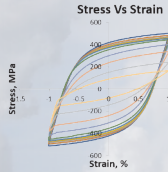
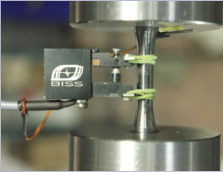
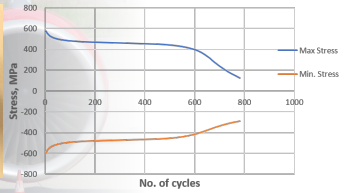


## Compression Stress, Vs Strain

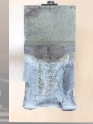
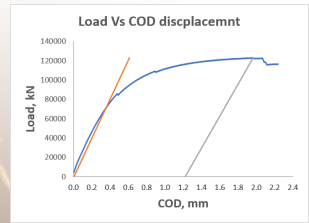
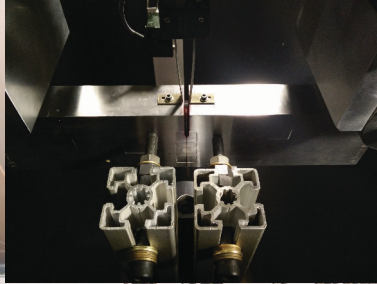


# Metallic Materials

- Tensile Test as per ASTM E8
- Compression test as per ASTM E9
- Tensile Test at Elevated Temperature as per ASTM E 21
- Poisson's Ratio as per ASTM E132
- K1C as per E399
- J1C test as per ASTM E1820
- Constant Force Amplitude Axial Fatigue Test as per ASTM E466
- Low Cycle Fatigue Test as per ASTM E606
- Fatigue Crack growth test as per ASTM E647/IS 16651
- Creep Fatigue Test as per ASTM E2714
- Thermo-Mechanical Fatigue Test as per ASTM E2368

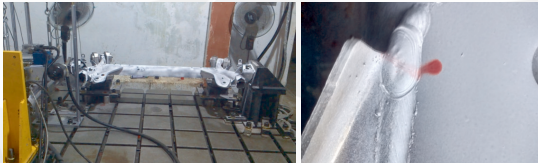
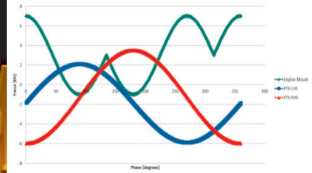
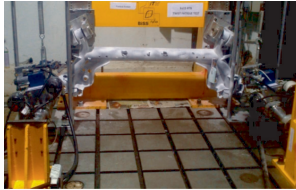


- CTOD test for Oil & Gas at ambient and -70° C



## Automotive Subassembly Parts Testing

Control mode: Displacement  
Amplitude:  $\pm 70$  mm, and  $\pm 38$  mm



Longitudinal and Lateral Loads sequentially as cyclic load inputs in X and Y- direction.

Loads are applied to the damper and spring seat through a simulating vehicle conditions.



Load is applied simultaneously on X and Y at an angle for link arms (LCA -LH/RH) and in global X-direction for the engine.



## BISS LABS

Reliability and reproducibility in mechanical testing



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