

CHARACTERIZATION OF MATERIALS IN FATIGUE

550 kN-capacity resonance testing machine subjects your test specimens (maximum: 850mm) to loads at frequency of up to 150 Hz thereby serving to reduce the overall testing time.



Your expectations

“To validate a part’s fatigue strength, the material must firstly be characterised on test specimens. The objective is to:

- Identify the behaviour laws of the material,
- Assess the endurance limit and plot the S/N curve,
- Compare the fatigue response of the various manufacturing processes,
- Assess the potential drifts of your processes during the “series life”,
- Carry out fracture mechanics testing (K1C, da/dN, J1C, etc.)”

Our solutions

Comprehensive support services from the determination of the tests through to the interpretation of the results (behaviour laws for materials & test/calculation correlations)

- Cetim has developed a distinctive approach tailored to the needs of manufacturers allowing you to:
- Optimise the service time through a specific experimental design and a test matrix that includes just the required tests offered by our experts,
- Characterise your materials at elevated temperatures (high-temperature cryogenics) and in harsh environments.
- Correlate the test data to the calculation data using contactless methods (e.g.: correlation of digital images) and/or instrumentation.
- Develop specific test methodologies, such as composite materials,
- To train you on material fatigue phenomena with a complete training offer on [Cetim Academy](#)[®].

Your benefits

- A tried and tested, personalised methodology that applies to a broad range of materials (metallic and non-metallic) and processes (forming & joining, etc.),
- A unique fleet of machines allowing providing assistance for sizeable projects (significant volume of tests), Cetim has recently invested in a high capacity 550 kN vibrophore which can stress your specimens (maximum: 850mm) at frequencies up to 150 Hz, thus reducing the overall duration of tests

Sector-based expertise and cutting-edge equipment for multi-physical tests under high loads.
Tests covered by Cofrac accreditation (accreditation COFRAC No. 1-1014 - Scope available on www.cofrac.fr),
Advice from an independent specialist to help you determine the best possible testing campaign to enhance the reliability of your products.



Question and Answer Service
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