

Nome Laboratorio	MECHANICAL TESTING
Acronimo del Laboratorio <i>(se presente)</i>	
Responsabile scientifico <i>(In caso di più responsabili, elencare i nominativi)</i>	prof. Vincenzo Crupi https://unifind.unime.it/get/person/025350
Indirizzo email <i>(Email di contatto istituzionale del laboratorio o dei responsabili scientifici)</i>	crupi.vincenzo@unime.it
European Research Council (ERC) <i>(Indicare la macro-area ERC e il/i sotto-settore/i ERC che meglio rappresentano le aree di attività del laboratorio. Selezionare una o più tra le seguenti opzioni)</i>	PE - Physical Sciences and Engineering • PE8 Products and Processes Engineering PE8_12 Naval/marine engineering PE8_7 Mechanical engineering PE8_10 Manufacturing engineering and industrial design PE8_14 Automotive and rail engineering; multi-/inter-modal transport engineering
Ubicazione del laboratorio <i>(Indicare edificio/blocco e stanza/spazio di riferimento)</i>	Department of Engineering, Block C, floor 2, room 260
Tipologia del Laboratorio <i>(Selezionare una o più tra le seguenti opzioni)</i>	☒ Research activities ☒ Teaching activities ☒ Service activities
Descrizione sintetica del laboratorio <i>(Descrivere finalità e principali settori scientifico-disciplinari coinvolti - Max 600 caratteri)</i>	The laboratory activities include performing static and dynamic tests to qualify the mechanical properties of both traditional and innovative materials, as well as welded joints, in compliance with current standards, even in harsh environments and at different temperatures. The laboratory also offers the possibility to carry out non destructive tests on welded joints and small components. The head of the laboratory is Vincenzo Crupi, Full Professor of Naval constructions and implants (IIND-01/B) and responsible of the NETTUNO (Green and lightweight design of ship and offshore structures for sustainable mobility and blue growth) research group of the University of Messina. The expertise areas include Naval constructions and implants (IIND-01/B) and Mechanical Design and Machine Construction (IIND-03/A).
Descrizione delle attività principali e/o dei servizi offerti <i>(Descrivere le principali attività e/o i servizi offerti - Max 1000 caratteri)</i>	Main types of tests carried out in the laboratory: • Mechanical tests of fatigue, tension, compression, torsion, bending, and fracture mechanics. • Creep tests. • Drop tests, Izod and Charpy impact tests. • Indentation tests. • Non destructive tests of welds, composites, and structural components using X-ray techniques.
Attrezzature/Strumentazioni principali <i>(Indicare le principali macrocategorie di strumentazioni e attrezzature presenti nel</i>	Main equipment available in the laboratory: 1. Impact testing machine (FRACTOVIS PLUS CEAST) equipped with a climatic chamber.

laboratorio. Evitare elenchi puntuali o inventari dettagliati - Max 1000 caratteri)

2. Universal testing machine (INSTRON 8803) with a 500 kN load cell for static and dynamic tests.
3. Axial-torsional universal testing machine (INSTRON 8850) with a 250 kN load cell for static and dynamic tests and fracture mechanics testing, equipped with a climatic chamber.
4. Universal testing machine (MTS 810) with a 250 kN load cell for static and dynamic tests.
5. Hardness and indentation testing machine (Zwick/Roell KAPPA 50 LA) for Vickers, Brinell, and Rockwell hardness tests, as well as indentation tests.
6. Creep testing machine (Zwick/Roell).
7. 450 J Charpy pendulum (Zwick/Roell).
8. X-ray inspection cabin with 320 kV source (Bosello SRE M@X - 320 kV).
9. Muffle furnace (Thermal Engineering).

Materiale fotografico

(Allegare foto rappresentative del laboratorio – Min 1, Max 3 foto)

