



INTRODUCTION

The casting process is crucial in manufacturing, used to create metal parts by pouring molten metal into molds that correspond to the desired shape. This liquid metal solidifies upon cooling, taking on the shape of the mold. Casting is essential in industries such as automotive, aerospace, and machinery, where the precision and quality of parts are fundamental to the integrity and functionality of final products.

Casting allows for the production of parts with extremely complex shapes, which are difficult and expensive to achieve through other methods. Among the various types of casting, sand casting is the most popular process in the industry. This method is suitable for almost all alloys, especially those with high melting temperatures, such as steel, nickel, and titanium. Its flexibility allows for the creation of very small or very large parts in quantities ranging from a single piece to millions.

The Practical Casting Kit: Modeling and Sand Casting of Hollow Parts, "MCLA", developed by EDIBON, is designed to provide a practical and detailed understanding of the fundamental principles of casting. This kit introduces students to the sand molding process and facilitates experimentation with three different models: a bell, an anvil, and an anchor, allowing for interactive and comprehensive learning.



Certificate of Approval of the
Quality Management System



European Union Certificate
(total safety)



UL and CSA Regulations
(All our products are manufactured according
to current UL and CSA regulations)



Certificate of Approval of the
Environmental Management System



Worlddidac Association
Certificate of Membership

GENERAL DESCRIPTION

The Practical Casting Kit: Modeling and Sand Casting of Hollow Parts, "MCLA", developed by EDIBON, is an essential educational tool for teaching the fundamentals of casting. This kit allows students to develop practical skills in molding and casting techniques, providing a deep and detailed understanding of the involved processes.

This kit includes a case equipped with all the necessary tools and components to simulate and practice effective casting processes. Step-by-step operations can be performed, including molding sand compaction, metal pouring, and part formation and finishing. The included models allow for the creation of a hollow cast piece, such as pipe reduction, which is fundamental for understanding both symmetrical and asymmetrical casting techniques.

The model pieces present different challenges in terms of symmetry and complexity. The creation of a hollow piece, such as pipe reduction, provides students with the opportunity to practice and understand various casting techniques, including cavitation and material shrinkage. This allows students to develop a comprehensive and detailed understanding of casting processes.

The "MCLA" Kit facilitates practical learning of casting processes by performing complete operations of sand compaction, metal pouring, and finishing of cast parts. Students learn to prepare molding sand, use the models to create precise molds, and handle molten metal safely and accurately. This not only enhances their theoretical understanding of casting principles but also develops essential practical skills in the manufacturing industry.

The Practical Casting Kit: Modeling and Sand Casting of Hollow Parts, "MCLA", is ideal not only for engineering students seeking a deep understanding of casting and solidification processes but also for manufacturing industry operators who need to improve their technical skills. Its use facilitates the transition from theory to practice, providing a solid foundation for future technical professionals and engineers.

SPECIFICATIONS

This practice kit comes in a carrying case that includes the following elements:

Aluminum cope and drag box, screwable.

Pattern plate with pattern.

Core box.

Downgate.

Small and big risers.

Shovel.

Brush.

Scraper.

Saucepan.

Rammer.

Pencil brush.

Lancet.

Thermometer.

2 Kg metal alloy (melting point 70 °C approx.), and 6 Kg moulding sand in a separate container.

All instruction set is supplied ready to use, including enough test material.

All material is recoverable.

Manuals: This unit is supplied with the following manuals: Required services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices manuals.

Additional recommended elements (Not included):

- FUND/A200. Metal alloy (melting point 70 °C approx.).
- FUND/A70. Special alloy melting 70 °C (1 Kg).
- FUND/Arena. Molding Sand (10 Kg).



MCLA detail



Detail of finished cast,
free of sand

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- Study of foundry fundamentals.
- 2.- To manufacture of a pipe-reducing flange with cavity of 1 kg-mass approx.
- 3.- Practice of melting, unmelting and foundry with irregular and asymmetrical patterns.

REQUIRED SERVICES

- Electrical furnace and burner.

DIMENSIONS AND WEIGHTS

MCLA:

- Dimensions: 600 x 400 x 200 mm approx.
(23.62 x 15.74 x 7.87 inches approx.).
- Weight: 15 Kg approx.
(33.06 pounds approx.).

ADDITIONAL RECOMMENDED ELEMENTS (Not included)

- FUND/A200. Metal alloy (melting point 70 °C approx.).
- FUND/A70. Special alloy melting 70 °C (1 Kg).
- FUND/Arena. Molding Sand (10 Kg).

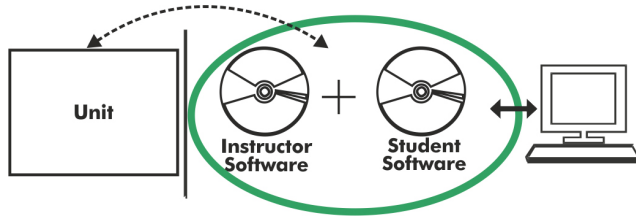
SIMILAR UNITS AVAILABLE

Offered in this catalog:

- MCLA. Practical Casting Kit: Modeling and Sand Casting of Hollow Parts.

Offered in other catalog:

- MCAM. Practical Casting Kit: Modeling and Sand Casting of Solid Parts.
- MCEN. Practical Casting Kit: Centrifugal Casting.

MCLA/ICAI. Interactive Computer Aided Instruction Software:

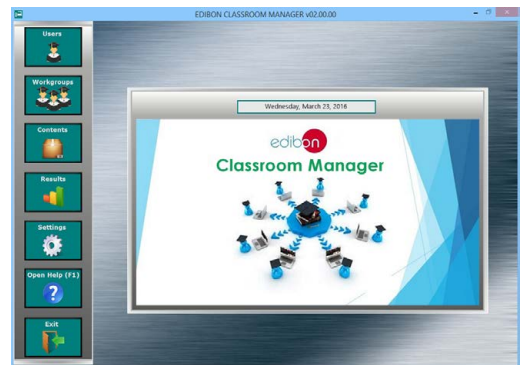
With no physical connection between unit and computer, this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

Instructor Software**- ECM-SOF. EDIBON Classroom Manager (Instructor Software).**

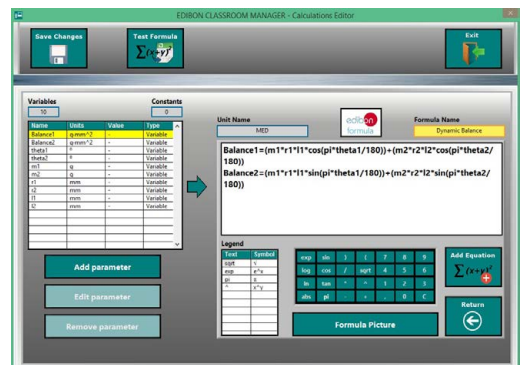
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc... so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

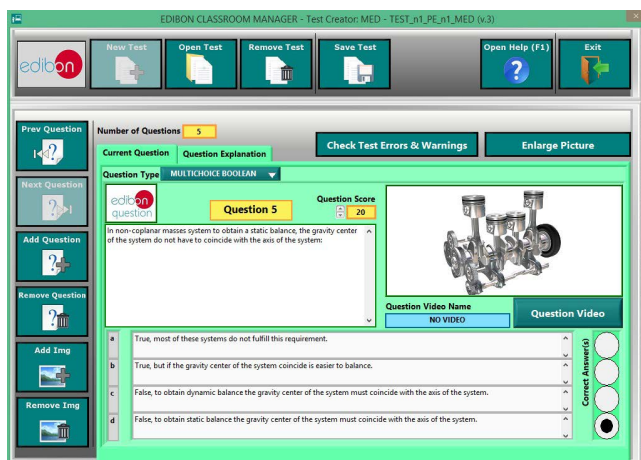
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- Updatable Contents.
- Report generation, User Progression Monitoring and Statistics.



ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen



ECAL. EDIBON Calculations Program Package - Formula Editor Screen



ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question



ERS. EDIBON Results & Statistics Program Package - Student Scores Histogram

Optional
Student Software

- **ESL-SOF. EDIBON Student Labsoft (Student Software).**

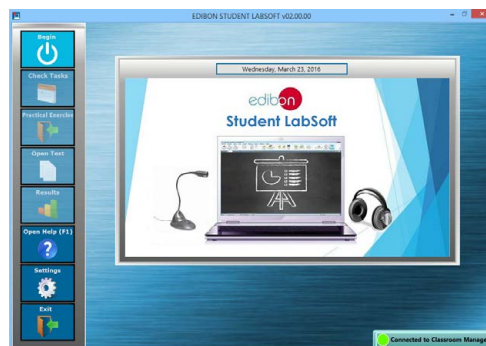
ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

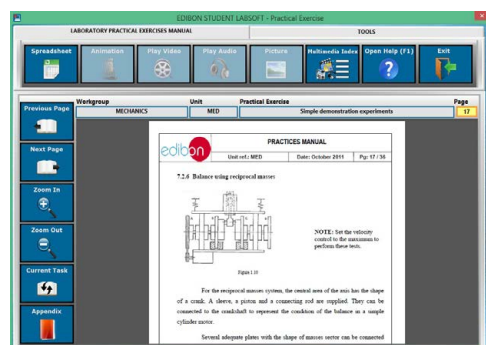
- **Student Log-In & Self-Registration.**
- **Existing Tasks checking & Monitoring.**
- **Default contents & scheduled tasks available to be used from the first session.**
- **Practical Exercises accomplishment by following the Manual provided by EDIBON.**
- **Evaluation Methods to prove your knowledge and progression.**
- **Test self-correction.**
- **Calculations computing and plotting.**
- **Equation System Solver Engine.**
- **User Monitoring Learning & Printable Reports.**
- **Multimedia-Supported auxiliary resources.**

For more information see ICAI catalogue. Click on the following link:

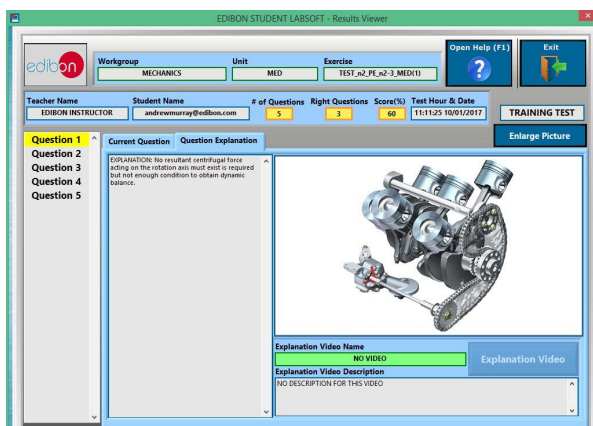
www.edibon.com/en/interactive-computer-aided-instruction-software



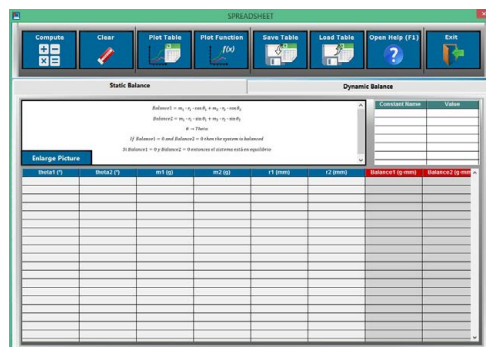
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



EPE. EDIBON Practical Exercise Program Package Main Screen



ERS. EDIBON Results & Statistics Program Package - Question Explanation



ECAL. EDIBON Calculations Program Package Main Screen

* Specifications subject to change without previous notice, due to the convenience of improvement of the product.



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REPRESENTATIVE:

