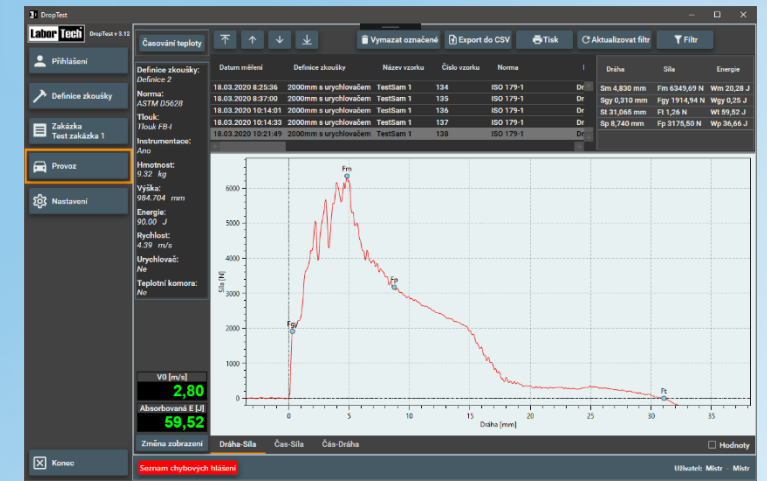... from development to implementation

Production of materials testing equipment and automation

LaborTech®

DROPTest
Software for vertical impact tests – drop weight testers

Made in Czech Republic

Description of testing software DROPTest

DROPTest - BASIS software is used to determine the impact work, which is a measure of the resistance of the material against the impact stress, the impact strength of the materials and the impact force in accordance with DIN, EN, ASTM, ISO and API norms.

Our DROPTest trial test software has been developed in a modular way, therefore it meets all set criteria including safe machine control in accordance with EN ISO 13849-1 / 2. DROPTest - BASIS contains the parameters that are required for tests where dropping weights from differently defined height and defined weight breaks a specimen in which we record the visual deformation of the specimen, the results database with the possibility of filtering individual items, the definition of tests with the possibility of writing the input data at your discretion etc. Due to the modular design of the software, DROPTest can be applied to vertical impact machines – drop weight testers in several modifications, namely:

STANDARD - BASIS
Instrumented - Modul IF - force
Instrumented - Modul IFS – force, trajectory
Manipulator - Module M
RUNNER – Module YR and BR
Automatic temperature monitoring – Modul T

Program využívá operační systém MS Windows 10 a vyšší. Aplikace je určena pro průmyslové systémy, které jsou ovládané dotykovými LCD monitory

In our software it is possible to set a list of users and their access rights (operator, service, metrologist etc.) who can log in via a touchscreen LCD or a reading card, it is possible to change and expand the item names, change and expand specimen types, etc.

Control of measuring and control electronics

The DROPTTest software controls a new fast, accurate and reliable SPEED measuring and control electronics with a variable sampling system up to 4MHz, 64 bit internal accuracy, 32 bit measurement and 24 bit ADCs. Modular system with the possibility to extend up to 8 sensors, communication channels with temperature chambers, optical specimens control, etc.
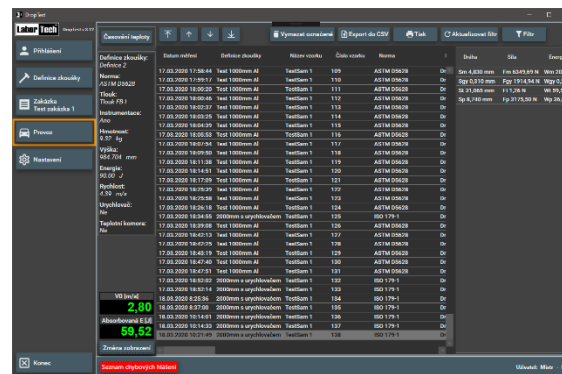

Features of software DROPTest - BASIS

DROPTest is an integral part of all vertical impact machines of the LabTest DP type supplied by LABORTECH. This software will help you increase productivity and quality testing in your testing and testing laboratories. You can streamline, refine and accelerate the performance of your tests and customize your testing environment to make it easy for the operator to measure the mechanical properties of materials by the method of free-fall weights, regardless of their skills. Below you will find basic features at a few points:

- Intelligent, intuitive and powerful software designed for fast and rational vertical impact tests
- Software designed for a falling weight test.
- Editable types of specimens and test standards including item name modifications.
- Graphic evidence of preparations for individual standards and workflows
- Digital display of all current values.
- Storage of measured data into a database with the possibility of filtering by definition, orders, data, etc.
- Extensive calibration mode already in the standard
- Automatic cooling timing before testing according to EN ISO 148-1 and ASTM E23.
- Data transfer from the temperature chamber, thermometer, etc.
- Multi-lingual version (CZ, EN, POL, RU, ESP, etc.)
- Print a PDF report
- Export data to CSV - BASIS, or MY SQL and MS SQL
- Unlimited license
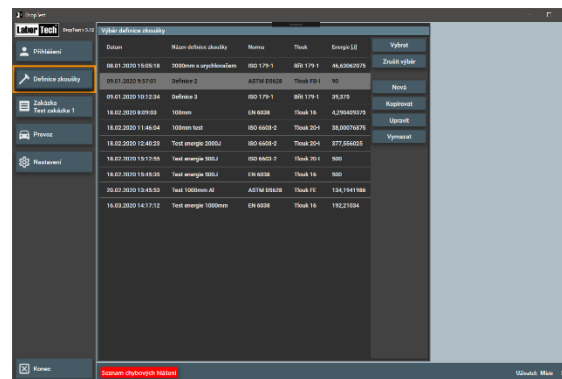- Installation on any computer without a license etc.

Safety and update requirements

- LABORTECH software, based on its design and structure, complies with all of the EC Machinery and Machinery Directives.
- High safety according to EN ISO 13849-1 / 2
- Continuous inspection of safety covers and doors in accordance with new safety features.
- Continuous SW update per customer requirements.

Structure of basic software DROPTest – BASIS

User login
- User login via keyboard or reader card
- Delegating rights to individual users

Test definition
- Selection of the test definition in the database
- Create a new definition
- Exam Date, Name of Definition, Drawing Number,
- Selecting the product, entering the test temperature, entering auxiliary values and information.
- Specifying the number of specimens tested within the definition ...
- Create a new definition by copying, including parameters

Order definition
- Create or select a new order
- Date of engagement, order title: enter the contract identification label, i.e. order name
- Order: enter the order name
- Creating a new job by copying, including parameters

OPERATION - displayed parameters
- ID, inventory, melt number, order number, location, temperature, specimen type, date, impact work, notched toughness, status, worker, standard, etc.
- ID My SQL

Measured data
- Database of measured values
- Database filter
- Export data to CSV
- Deleting database data
- Database backup

Test start and test course record
- Start the exam
- Record of test progress (IF and IFS modules)
- Switch between individual windows

Machine status report
- Error message - report database
- Machine status report history

Options of settings
- Operational settings, item names, additional settings
- Ways to control the program

Setting user rights
- Set up a list of users and their rights

Modules DROPTest – IF or IFS designed for instrumented test acc. to EN ISO 14556:2015

Modules DROPTest – IF and IFS are superstructure software modules that have been developed for IFS or IFS or IFS. These software modules, in conjunction with the HiSpeed Card, Instrumented Striker and Length Sensor - IFS, are able to graphically record the course of the test with the possibility of automatically calculating parameters and modifying options. At the end of the exam, the possibility of individual processing is also offered. The following items are part of these modules above BASIS:

- Changing views between charts and measured results
- Recording multiple curves, zooming with ZOOM detection of x, y coordinates for individual samples, etc.
- Select a change in graph display between force, path, and time
- Linearization of the course of the instrumented strikers
- Calibration of individual instrument blades according to EN, ASTM and GOST
- Modification of measured instrumentation values
- Export data graphs to CSV - individual samples
- Evaluation of the tensile instrumented test, etc.

Modules DROPTest – M, YR a BR designed for manipulation with a specimen by a manipulator or a robotic system

DROPTest - M, YR and BR modules are superstructure software modules designed for the handling system. These systems were primarily designed to minimize the operator influence on the reproducibility of test results by basing and breaking specimens within 10 seconds, which is an important aspect in impact tests and, above all, safety. **Module M** - operator bases the specimen into the manipulator manually and the software provides complete control and safety. **Modules - YR and BR** are LABORTECH robotic systems that are suitable for complex handling of specimens from notching devices, cooling chambers, cooling baths, dimension measuring devices, etc. These systems can be used for both BASIS, IF and IFS modules. The RUNNER systems can be incorporated into:

- Communication and control with temperature chamber and cooling bath including the tray system
- Communication with optic check of specimens OPTOLab 55 III including database exchange of measured data
- Automatic sampling rate from a specified tray
- Automatic guarding of the workspace of the drop weight tester
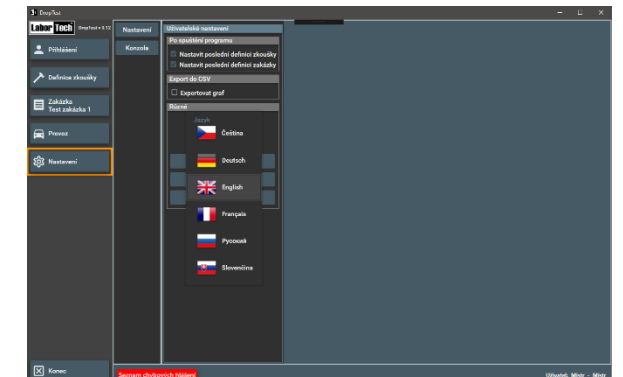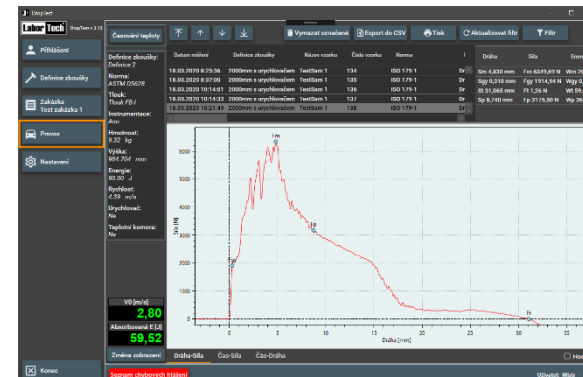- Automatic temperature monitoring - Module - T

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… from development to implementation

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