Advanced Plastic Testing
Technologies
ABOUT QUALITEST

Qualitest is a global contender and one of the top-ranking manufacturers and suppliers of testing technologies worldwide. With our extensive portfolio of state-of-the-art and competitively priced testing machines, systems and software, we supply standard or customized solutions for many test, measurement and quality control tasks required in the world of modern materials testing.

The key products from Qualitest range include hardness testers, universal testing machines, metallography, materials testing equipment, spectroscopy, microscopy, portable testers, and instruments for testing metals, plastics, rubber, textiles, paper, paint, cement, concrete and packaging materials, as well as technologies for NDT/Ultrasonic, surveying, automotive, aerospace, mining, oil/gas/pipe industries, gold & Jewellery applications and much more.

PLASTICS TESTING TECHNOLOGIES

- Universal Testing Machines
- Creep, Stress, HDT/VICAT Testers
- Plastics Pipe/ PVC Testing Equipment
- Color Testing Instruments
- Film Testers
- More Plastics Testing Instruments
- Impact Testers
- Drop Impact Tester
- Film Permeability Tester
- Densimeters
- Specimen Dies/ Molds & Clicker Presses
- Melt Flow Indexer
- Specimen Preparation CNC Machine
QUALITEST NETWORK

We believe in participating responsibly in the global marketplace. We are committed to understanding and respecting the laws, values and cultures wherever we do business; profitably growing in all markets; promoting a healthy business climate globally; and contributing positively in every community we call home, both personally and organizationally.

Together with our WorldofTest.com network of partners, Qualitest offers a complete selection of testing machines and systems. Today Qualitest has 50 - 70 associates who are contributing to our growth.

Through our team’s unrelenting focus on productivity and innovation, we also offer efficient customer service support directly or via our worldwide QualiService authorized partners.

Qualitest and WorldofTest.com network today is a leader in the global testing technology industry.

QUALITEST CUSTOMERS

Qualitest has had the privilege of serving many Fortune 500 companies and global industries. Our growing network of customers include major corporations.

SUPPORT & SERVICES

Quality and customer satisfaction is our top priority. With direct support/service or via our authorized QualiService network we ensure that your Qualitest product stays fully functional wherever you are.

TECHNICAL SUPPORT
Help you to better understand our products and provide support when you need it.

CALIBRATION
We provide fast, quality, accredited calibration services to our products.

REPAIR
Repairing services will also be provided by us to ensure your machine works properly.

PARTS & CONSUMABLES
Qualitest also provides parts and consumables for the long run.
Plastics are often used to replace other common materials such as metals and wood because of their low cost and durable characteristics. Plastics offer innumerable advantages in production as they are easily softened or melted, and can be molded into any shape. Plastics in general can be divided into two categories: thermoplastic and thermoset processing groups.

Thermoplastic materials are made of polymers or long-chain macromolecules. Heat can transform this material, giving it the flexibility to be formed into tools or key components of other products. This characteristic also allows plastics to be reused or recycled. The other components that make up this material are additives that change properties such as color, stiffness, weatherability, and wear resistance. Thermoplastic materials are necessary for essential manufacturing materials such as sheets, round bars, round bars with a steel core, pipes, and various other sections.

Thermoset plastics are made of polymers that are permanently set through exposure to heat and catalysts during the manufacturing process. As heat can no longer change their shape, these materials are thereby used at higher temperatures and pressures than thermoplastics can withstand.

The ideal combination of processing flexibility and performance enables plastics to be used in an extensive range of applications ranging from low-cost disposable items to expensive specialty parts. Plastics are key materials in the production of automotive parts, electrical appliances, aircraft and aerospace components, sporting goods, packaging, toys, food packaging, and much more. There is no other material that can match the durability of plastic due to its flexibility, fast molding qualities, color absorption, resistance to corrosion, low weight, electrical and thermal Insulation, and general toughness and longevity.

The extensive use of plastics requires testing at all stages of development and manufacturing to ensure that products are able to perform well in their intended use. The tests are conducted by companies to guarantee quality control, using Internationally standardized methods in the production of all plastic products.

As the characteristics of plastics are influenced by external temperature changes, testing should also be conducted at high and low temperatures. Extreme temperatures can be achieved in environmental chambers, which provide the conditions of real-world applications.

For tensile testing, laser and video extensometers are also used for high temperature strain measurements as well as for plastics materials that are sensitive to contact stresses or contamination.
The Universal Testing Machine is loaded with technical features, ergonomic design and is produced with the highest quality as a benchmark. This instrument is suitable to be used in: Production lines, where the operator has to be fast and efficient, and accurately control the test, Testing lab environments, where using the advanced software, the users can analyze the test data, have full control on processing, filing, and test management.

### QM-series Universal Testing Machine range

<table>
<thead>
<tr>
<th>Model/Specs</th>
<th>QM-5</th>
<th>QM-20</th>
<th>QM-50</th>
<th>QM-100</th>
<th>QM-200</th>
<th>QM-300</th>
<th>QM-500</th>
</tr>
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<tbody>
<tr>
<td>Capacity (kN)</td>
<td>5</td>
<td>20</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>500</td>
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<tr>
<td>Total Cross-head Movement (mm)</td>
<td>400 or 800</td>
<td>800 or 1,200</td>
<td>1,000 or 1,100</td>
<td>1,000</td>
<td>1,100</td>
<td>1,100</td>
<td>1,200</td>
</tr>
</tbody>
</table>

### High & Low Temperature Universal Testing Machine

ISO 527, ASTM D 638 and the equivalent.

Environmental system enables the testing of material and components under a variety of real world conditions. Cooperating with environmental chamber, UTM machines can realize variety of tests at low or high temperature.

- It consists of three parts: main frame, grips and moveable high & low temperature cabinet.
- Import full-digital AC servo system and high rigid structure enable high precision of the measuring result. The cabinet, with a double-heat insulation glass door, is convenient to observe the test; stainless steel test cabinet is resistant to corrosive.
**Hydrostatic Pressure Tester**

http://www.worldoftest.com/hydrostatic-pressure-tester

Conforming to ISO 1167 and ASTM D 1598 & 1599, the Hydrostatic Pressure testing system is mainly used to determine the resistance of thermoplastics pipes to constant internal water pressure at constant temperature.

**Drop Weight Impact Tester**

http://www.worldoftest.com/drop-weight-impact-tester

The Falling Weight Impact Tester is used to perform impact tests on plastic pipes, conforming to ISO 3127, EN744 and EN1411. Test pieces are subjected to blows from a falling striker.

**Rapid Crack Propagation (RCP)**

http://www.worldoftest.com/rapid-crack-propagation-rcp

ISO 13477

Rapid Crack Propagation (RCP) is used to determine the critical pressure or critical temperature for rapid crack propagation.

**Thermal Recycling Testers**

http://www.worldoftest.com/thermal-recycling-testers

ASTM F1335, ISO 15874, ISO15875, ISO 15876, ISO 15877

The Thermal Recycling Testers for Plastic Pipes is used to evaluate the function of hot and cold water-pipes PP, PE-X, PVC-C, PB), under a certain pressure for 5000 cycles. A test assembly of pipes and fittings is subjected to temperature cycling by the passage of water under pressure using hot and cold water alternately for a specified number of cycles.
Static constant loading tester is mainly used to determine the resistance to the axial static constant load of plastic manhole. A constant force is steadily loaded on the axial direction of the manhole for the specified time, when test is finished, observing the sample appearance (deformation, collapse, crack or crazing), determine the deformation in axial direction and calculate the deformation ratio of manhole.

BS EN 13598-1:2003

The Thickness Tester revolutionized capacitance film thickness gauging with the introduction of our patented AutoCal™ concept - by adding an absolute (contact) measurement probe with the capacitance sensor.

ASTM F 2029

Heat seal testing equipment specially designed to simulate heat sealing condition and affecting parameters for determination of heat sealing ability of plastic films, composite films, coated paper, and other sealing films under specified sealing conditions.
High Performance Charpy/ Izod Impact Tester


ISO 179, ISO 180, ASTM D256

The High Performance Charpy/Izod Impact Tester is a high performance impact tester designed to precisely determine the absorbed impact energy and resistance to breakage of plastic specimens. The tester conforms to both ASTM and ISO standards. The innovative design allows this tester to be used for both Izod and Charpy test. The max capacity of this tester is 22J (Izod) and 50J (Charpy).

Gardner Impact Tester

http://www.worldoftest.com/gardner-impact-tester

ASTM D 2794, D 5420, D 3029, D 4226 and G14

Qualitest offers extensive range of advanced plastics and color testing equipment such as Gardner Impact Tester which is a widely used device for the coating and plastic industries.

Drop Dart Impact Tester for Plastics Film


ASTM D1709

Impact testers Full-Featured models for Film and Sheet
The Model DX-8285A Drop Dart Impact tester with Pneumatic Sample Clamp and Pneumatic Dart release Mechanism.
MoRe PlAsTics TesTing insTRuMenTs

Gas Permeability Tester

http://www.worldoftest.com/gas-permeability-tester

ASTM D1434, ISO 15105-1, ISO 2556, JIS K7126-A

Gas Permeability Tester is used to test the gas transmission rate (GTR) of packaging material by differential pressure method. This instrument is generally used to measure transmission rate of Oxygen (O2), Nitrogen (N2), Carbon dioxide (CO2).

Oxygen Permeability Analyzer

https://www.worldoftest.com/oxygen-permeability-tester

ASTM D3985, ASTM F1927, ASTM F1307, ASTM F2622, ISO 15105-2

Oxygen Permeability Tester is designed to test the oxygen transmission rate (OTR) of plastic film, infusion bag, sheets, solar panel, cellophane, ceramics, porcelain, and various containers like bag, pouch, bottle, can, bowl, box that widely used in the industries coulometric sensor method.

Water Vapor Permeability Tester

https://www.worldoftest.com/water-vapor-permeability-tester

ASTM E96, ASTM D1653, ISO 2528, TAPPI T464

Gravimetric method

Water Vapor Permeability Tester series is used to test the water vapor transmission rate (WVTR) of a wide range of materials by Gravimetric Method. It is ideal for advanced water vapor permeability testing for research and development companies and has the reliability, speed, versatility and accuracy required for Quality Control testing.

Gas Chromatography Tester

http://www.worldoftest.com/gas-chromatography-tester

Gas Chromatography Tester is designed to separate organic solvents. It is able to test solvent residues of printed packaging material, or the purity of a single solvent.
Automatic Motorized Durometer - Digi-Test II

https://www.worldoftest.com/automatic-motorized-durometer-digitest-ii

The most accurate and versatile hardness tester on the market, DigiTest positions itself as the top level Shore/IRHD hardness tester with a modular design to suit virtually every Shore or IRHD hardness measurement scale for Polymers. The automatic test procedure of DigiTest eliminates the operator’s test influence on test procedure and thus always provides the most accurate results.

Depending on the hardness scales of your choice, from any of Shore scales A, A0, B, O, C, D, D0, 00, 000, 000 S, E, micro Shore A, micro Shore D, C, D0, IRHD/DIDC M, N, H, L, VLRH, you can select the most cost effective combination of required test heads, and expand and upgrade it at any time in the future.

Automatic Hardness and Density Testing

http://www.worldoftest.com/automatic-hardness-and-density-testing

The revolutionary HDA consists of a hardness tester and a density measuring system which allows tests to be carried out automatically. This is an automatic system specialized for high capacity test.

- New product for automatic heavy duty application
- Integrated systems to optimize performance
- Test up 4000 samples

Temperature Controlled Automatic Motorized Durometer

http://www.worldoftest.com/temperature-controlled-automatic-motorized-durometer

The revolutionary Temperature Controlled Automatic Motorized Durometer - Digi-Chamber - SHORE & IRHD Scales consists of a Digi-Test II Hardness Tester and a temperature chamber which allows tests to be carried out at above or below ambient temperature. With the function of temperature control, the specimen can be examined of its hardness change in extreme temperature conditions. This kind of test is ideal for the automobile and tire industries as most of the rubber parts are required to sustain critical temperature changes. The entire system can be controlled by a touch panel with colored display providing easy-to-use controls.
Ozone test chamber is a major factor in rubber cracking although it is rare in the atmosphere, ozone aging tank simulates and enhance the condition of ozone in the atmosphere to study the effects of ozone on rubber, and then identify and evaluate the method to resist ozone and aging for rubber, adopt effective anti-aging measures to enhance the life of rubber products.

Xenon test chamber is affordable, full-featured, and has a large specimen capacity. It provides precise control of critical test parameters including spectrum, irradiance, relative humidity, chamber temperature and black standard temperature.

Environmental Test Chamber simulates a full range of temperature and humidity conditions to test reliability, durability, climatic, freezing resistance, quality assurance, thermal endurance, plastic products, electrical appliances, instruments, food, vehicles, metals etc.

Temperature humidity chamber is used to test material structure or composite, in the high temperature and ultralow temperature continuous environment. Suitable for electronic, LED lighting industry, auto parts, chemical industry, building materials, mobile computers, batteries, plastic, metal, rubber etc.
**Salt Spray Tester**

http://www.worldoftest.com/salt-spray-tester

ASTM-B117, JIS-D0201, JIS-HB502

The Salt Spray Tester – Salt Spray Cabinet – Chamber – Fog Apparatus is used to create and maintain the salt spray (fog) test environment, and test the anti-corrosion quality of all the materials surfaces after the rust-proof of painting, coating, electroplating, anodizing and rust-proof of greasing. Our salt spray testers meet ASTM-B117, JIS-D0201.

**Walk in Chamber**

http://www.worldoftest.com/walk-chamber

Walk in test chamber simulates the effects that a range of temperature and humidity conditions have on a product or material.

**Densimeter**

**Densimeter**

http://www.worldoftest.com/densimeter-sd-200l

- Top precision model with density resolution of 4 decimal places for both Solid and Liquid.
- Suitable for plastic pellets, films, rubbers, fabric, advanced materials, and liquid density in the field of medical, food, and chemical that require accuracy.
Our molds are made of P20 tool steel that is hardened, ground and polished, then chrome-plated with the option of Teflon coating. Both molds and dies meet most national and international standards such as ASTM, DIN and ISO.

**ASTM Standard Cutting Dies**

| ASTM D-412 A to F Tensile Sample Cutting Die | ASTM D-1708 Micro tensile Die |
| ASTM D-638 Type I –V Tensile Die | ASTM D-746 |
| ASTM D-1822-S | ASTM D-1938 |
| ASTM D-624 Sample Cutting Die | Other ASTM Dies Available Upon Request |

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**MFI & SPECIMEN PREPARATION**

**Melt Flow Indexer**

https://www.worldoftest.com/melt-flow-tester-melt-flow-indexer-mfi

ASTM D1238, ISO1133

Melt Flow Indexer Series can be used for testing MFR and MVR of polycarbonate, fluoroplastics, as well as polyethylene, polypropylene, ABS, POM, etc and is related to the melted material viscosity. It enables the operator to estimate the mean molecular weight and at the same time gives an indication of melt flow ability through the die.

**CNC SAMPLE PREPARATION**


CNC Sample Preparation Milling Machine is among the most versatile machine tools in the compact class. It is a high-performance centers, which can be set up quickly, easy to operate, high stability, high flexibility and low-maintenance. Thanks to the well-designed modular structure, there are numerous configuration possibilities. This allows customers to select upgrade parts according to their need.
**Full Notch Creep Tester**

ISO 16770 and ISO 3501

Full Notch Creep Tester (FNCT) - For Testing of Plastics Materials is used to determine the stress cracking resistance of polyethylene materials in any environment. A test specimen in the form of a square-section bar with coplanar notches in each face at the center is subjected to a static tensile load in a temperature-controlled environment (ie. air, water, surfactant solution).

**Environmental Stress-Cracking Tester**

ASTM D1693-01

The environmental stress cracking chamber is used to determine of the susceptibility of ethylene plastics, as defined in terminology D883, to environmental stress-cracking when subjected to the conditions specified in ASTM D1693-01 under certain conditions of stress and in the presence of environments such as soaps, wetting agents, oils, or detergents, ethylene plastics may exhibit mechanical failure by cracking.

**HDT/VICAT Tester**

ASTM-D648, ASTM-D1525, ISO-75, ISO-306, DIN 53461, DIN 53460

HDT/VICAT Systems offer Heat Distortion Temperature (HDT) and Vicat Softening Point of plastic materials. HDT Series Heat Deflection Tester offer sophisticated control using Windows based software.
Transparent products can have a milky or fuzzy appearance dependent on their light scattering behavior. The haze-gard i quantifies the visual perception with objective measurement criteria:

- Total transmittance
- Transmission haze
- Clarity

Qualitest offers extensive range of advanced plastics and Color testing equipment such as Portable Spectrophotometer – Spectro-Guide & Color-Guide which is used for total Appearance Control - color and gloss in one unit.

Mobile Color Measurement. Store up to 200 standards with tolerances and 999 samples in the color-guide's memory and control color whenever and wherever it is needed.

A gloss meter measures the specular reflection. The light intensity is registered over a small range of the reflection angle. Our comprehensive range of competitive and reasonably priced gloss meters include economical models as well as advanced versions measuring single angles or TRI angles.
Packaging compression is used to evaluate compressive resistance of small sized packages, boxes, and containers to analyze whether specific packing can successfully withstand the compressive forces they are subjected to during storage and distribution. The test gives a clear understanding of deformation under compressive force.

Packaging Compression Tester

ASTM D 642, ASTM D 4169, TAPPI T804, ISO 2872

Packaging compression is used to evaluate compressive resistance of small sized packages, boxes, and containers to analyze whether specific packing can successfully withstand the compressive forces they are subjected to during storage and distribution. The test gives a clear understanding of deformation under compressive force.

Leakage & Seal Strength Tester

Quick, Easy Measurement of Relative Opacity for Film and Packaging Products Ideal for the laboratory or plant floor, the Opacity Meter is a simple to use, off line instrument that indicates relative opacity of plastic film, paper, laminates, printed packaging and other materials. With a single pass of the light source through your material, the system measures relative light transmission on a scale of 0 to 100 Opacity Units, representing perfectly transparent to purely opaque materials, respectively.

Opacity Meter

Leakage testing of pressurized packages is very important part of product manufacturing and preservation of product to maintaining its quality till consumption of product for industries which deal with food, beverages, pharmaceuticals, personal care etc. Leakage Tester is used to test the hermetic sealing quality and performance of packaging bags, bottles, cans, etc.

Leak Tester (Negative Pressure Method)

Leakage & Seal Strength Tester

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Synchronous Thermal Analyzer combines TGA (Thermo gravimetric Analysis) with DSC (Differential Scanning Calorimeter), in which we can get the information of TG and DSC in synchrony using the same sample during the same operation.

Differential Scanning Calorimeter

The Differential Scanning Calorimeter is a compact and low-cost thermal analysis instrument. Differential Scanning Calorimeter have a vast number of industrial applications, particularly in the quality control of engineering thermoplastics.

LME Laboratory Mixing Extruder

The LME Laboratory Mixing Extruder is a unique laboratory tool developed to evaluate the process ability of a variety of plastics and rubbers prior to production. From very fine powders to coarse materials, the LME will meet many extruding needs.

Limiting Oxygen Index Chamber

ASTM D2863, ISO 4589, BS 2782 part 141

The Limiting Oxygen Index (LOI) fire test is perhaps the most economical and precise quality control test for combustible materials. Its ease of use together with high levels of precision has made this technique a primary characterization and quality control tool for the plastic materials and electric cable industries.
Apparent/ Bulk Density Tester

http://www.worldoftest.com/apparent-bulk-density-tester

The Apparent Density Tester - Bulk Density Tester series testers are used to measure apparent density, bulk factor, and where applicable, the pourability of plastic materials such as molding powders. There are three methods according to ASTM D 1895 that are applicable to various forms of these materials that are commonly encountered - from powders and granules to large flakes and cut fibers. The apparatus consists of a measuring cup which is polished inside and a funnel.

Digital Elmendorf Tearing Tester

http://www.worldoftest.com/elmendorf-tear-strength-tester

ASTM D1922, ASTM D1424, ASTM D689, ISO 13937-1

Digital Elmendorf Tearing Tester takes the Elmendorf method and is used to determinate tearing resistance property of films, sheets, flexible PVC, polypropylene, polyester, paper, cardboard, textile and non-woven, etc.

Spout Insert & Sealing Machine

https://www.worldoftest.com/spout-insert-sealing-machine

Qualitest spout sealing machine is automatic PLC controlled machine specially designed for mass production of packages with spouts and heat sealed packages.

It is a fully automatic system consists of heat sealing system, spout input system, and bag input system, bag output system, and central control system mounted on single base frame from module. All systems are equipped with electronic sensors and relays to work cordially for efficient and quality manufacturing of packaging bags.
Qualitest is proud to retain a constantly growing roster of global customers who continue to benefit from our product offerings. Qualitest offers guarantees that make us stand out in the competitive testing equipment industry in offering the best price/quality ratio products, efficient support, and much more. These are a few key benefits that we continue to offer to our customers worldwide:

**Competitive Price Guarantee**
Qualitest is confident to offer competitive products at the best possible prices. We ensure to offer the best value for your investment without compromising quality.

**High Level of Standards**
Qualitest products are built to meet and exceed latest North American and global standard requirements.

**Efficient Logistics**
Short delivery periods for standard products from our many convenient worldwide distribution centers. Our large volume of shipments helps us to offer the most competitive shipping rates worldwide.

**#1 Source for Testing Technologies**
Qualitest is recognized as a one stop source for complete quality control lab solutions, as we provide streamlines support for all of your testing requirements without the need of relying on too many sources.

**Vendor Choice for many Fortune 500 companies**
North American and global Fortune 500 corporations continue to benefit from Qualitest range of products, as we ensure the highest security and assurance for their investment.

**Centralized Service & Support Coordination**
Managed through our central service dept. we offer efficient customer service support, direct or via our worldwide QualiService authorized network.
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