



Eaton Cerkezkoy hose production facility

Eaton's Cerkezkoy facility is one of the biggest and most modern hose manufacturing plant in the world. Over 110 thousand square meters of covered facility, almost 2000 employees work to support a board range of hose production – hydraulic, PVC, thermoplastic and industrial hoses, producing Eaton's leading hoses and private brand products.



Since 2012 several major investments were made in the facility to improve productivity, quality and safety to achieve the leading Eaton production plant position for hoses. Quality, performance and product development are the key factors for the next generation of Eaton hoses. The most important contributor to the continuous quality improvement, new product development and customer focus is the Cerkezkoy Test laboratory.



The Test laboratory is the central intelligence of the product improvements, where both the product development and the standard production quality tests are carried out to ensure that the design really meets related specifications. We believe that introducing this department and its capacity and instrumentation is an important point to show our production excellence. We develop our products together with our customers, sharing test results and following them up together for improvements and alignment.



The Laboratory is ISO certified (ISO 17025 International Laboratory Accreditation System) for gravity, hardness, adhesion, abrasion tests, so these results are validated and accepted all around the world. Lean Culture activities such as GEMBA (T Cart), Kaizen, Patent, CI (Continuous Improvement) are the other key factors performed in the Laboratory.



Powering Business Worldwide

Over 150 test methods can be performed with international standards compliance.

Four core areas



Benchmark control

Benchmarking control laboratory focuses on the reverse engineering of non-Eaton Hoses so the raw material and recipes can be identified. Qualitative and quantitative sensitive test equipment are used for further analysis to understand polymer types and those ratios in the recipe.



Raw material control

All incoming raw materials are tested with detailed analysis in accordance with internal sampling procedure and prepared based on ISO norms. Approximately 300 types of raw materials such as wires, textiles, yarns, rubbers, liquid chemicals, fillers are inspected prior to release them for serial production. First inspection test is run for materials according to their specific control plans (covering sampling, international test methods, tolerance lever), for each batch before they are released for serial production. Records are kept for eliminating mistakes in the serial production.



The results of the control test are used also for feedback and development of the suppliers, using statistical methods to select the best suppliers or to eliminate issues (8D Defective Reports is sent to supplier either to get them resolved the issue or further understand the root cause of problem).

Tests such as Mooney Viscosity, FTIR, humidity, volatile materials, melting point, gravity, tensile and elongation, sieves, flash point, titration, shrinkage, torsion, fatigue tests are carried out according to international standards.



Semi product control

More than 500 actively used compounds we have in production regularly and each batch is checked as per batch so that a regular production process is always ensured in the plant. This part of the laboratory works also on prototype preparation with a small scale lab mixer and presses. High capacity and direct testing for all properties of compound such as hardness, tensile & elongation, liquid and heat aging etc. are easily measured and improved in one cycle/ machinery.



Finished product control

Flagship of the test laboratory, where we test the developments, but also make random tests of the serial production samples. Automatic force to bend tests under room and minus temperatures, permeability ratio, volumetric expansion, Long and short term heat & steam resistance, tensile of hose assembly, ozone and UV resistance are the tests which are carried out for finished product control.

Hydraulic Impulse test Laboratory

Part of the finished product control is the Hydraulic Impulse test laboratory. The Impulse test results are key in the quality development since it represents the lifetime and capabilities of hydraulic hoses and Cerkezkoj have the capacity to perform various test, very soon.

Our customers have the personal trust and relationship also build out with the team here that the test are requested on a consultative level.



Static impulse tests, full and half omega shape tests, with rotating manifold (special requirement for some customers) can be performed. Standard reporting, according to ISO make the results easy to follow.

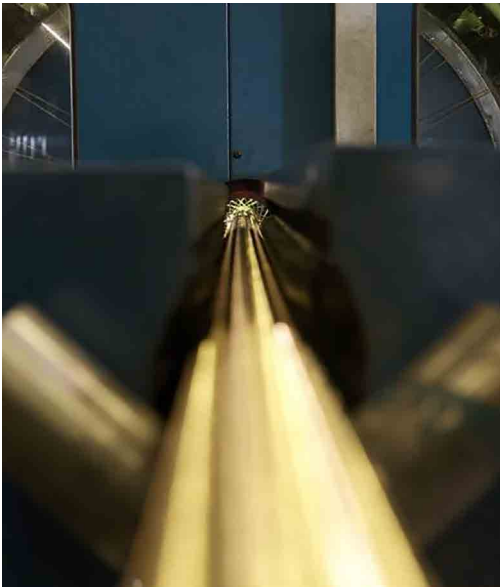
Testing in the standard temperature range, (100-1250C) or even to 1500C can be performed, pressure tests up to 1000 bar, frequency and different sizes on demand. Some of the test machines were developed together with the test machine suppliers sharing experiences and focusing on real market needs.



Shortening test period with the impulse test machines BIMAL BIS 800GR

Introducing one of the biggest and most effective test machines in the industry. Designed according to Eaton's request, this sophisticated machine test six samples at the same time, shortening the test period to its 30%- so improving effectivity and speed by threefold. Resulting not only faster but more consistent test results of testing in one cycle all the samples. This test equipment also can handle larger sizes of 2.5-3 inch sizes.

Continuous investment to better quality and productivity



In the last years Eaton has invested significantly in Cerkezkoj facility to improve productivity and infrastructure, start new products production and enhance quality.

Productivity & infrastructure improvements help to have an optimal customer supply level, so projects like mandrel line modernization, new bandage machine; product knitting machine has been implemented. We focus on the new developments, so new chillers for mixers for the compound `kitchen` where all the rubber compounds produced for energy saving and environmental protection and PVC mixer improvements play an important role.

Quality enhancements - The new impulse testers, product engineering test, rigid spiral proof test equipment were implemented in the last years.

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