

Elastocon®

Testing with precision

Elastocon AB

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Our calibration lab is
accredited by Swedac



Accredited Testing Services



Elastocon performs testing and consultancy assignments in rubber and plastic. Our specialities are ageing tests, estimation of lifetime and testing of low temperature properties on rubber materials.

We have been accredited for 13 rubber testing methods, see the box to the right. It is SWEDAC, the Swedish Board for Accreditation and Conformity Assessment, that performs the accreditation. SWEDAC's website says the following about what it means:

"To be accredited, skills, procedures and methods are tested so that all quality requirements are met as a standard. Next, Swedac check regularly that the company continues to meet the requirements for their accreditation.

The purpose of accreditation is to ensure that certification, inspection and testing is done with high quality and safety for life, health and environment. Accreditation means that inspections are performed impartial, accurate and based on internationally recognized standards."

Ann-Cathrine Magnå is Elastocon's Laboratory Manager and has 20 years of experience in polymer testing from SP Technical Research Institute of Sweden (RISE).

Accredited rubber test methods in Elastocon's testing laboratory

ISO 34-1	Tear strength
ISO 37	Tensile stress-strain properties
ISO 48	Hardness IRHD
ISO 188	Accelerated ageing and heat resistance
ISO 815-1	Compression Set
ISO 815-2	Low Temperature Compression Set
ISO 1432	Low-temperature stiffening (Gehman test)
ISO 1817	Resistance to liquids
ISO 2921	Low-temperature retraction (TR test)
ISO 3384-1	Stress relaxation in compression
ISO 6914	Ageing characteristics by measurement of stress relaxation in tension
ISO 7619-1	Hardness Shore
ISO 11346	Estimation of life-time and maximum temperature of use



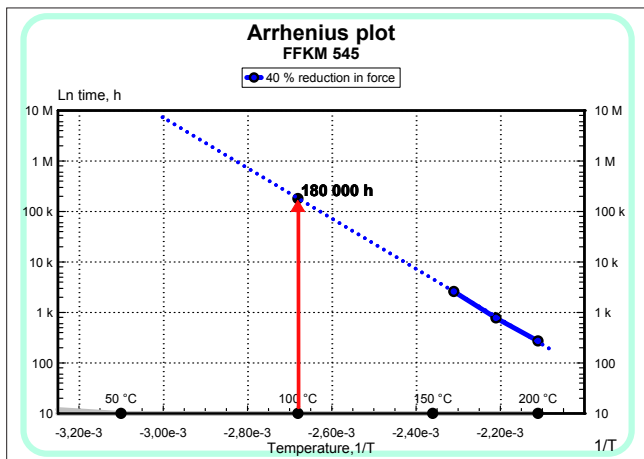
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Lifetime estimation

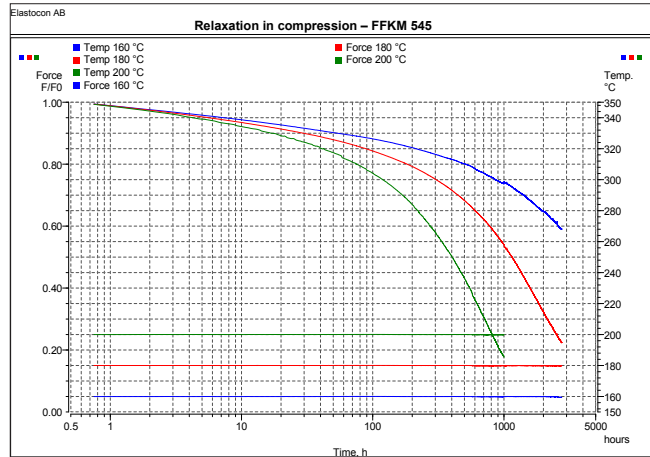
One of our specialties is lifetime estimation, especially of rubber materials.

The testing is performed at three different temperatures and a critical property is tested until the function is finished.

When testing rubber, it's common to use stress relaxation in either compression or tension. The times to reach the "end of life" time for each temperature will be plotted in an Arrhenius graph and the lifetime at lower temperatures can be extrapolated.



Arrhenius graph.



Stress Relaxation test at three temperatures of a per-fluoro rubber.

Standardisation

To participate in the standardisation of rubber test methods is important when working with testing. Two of the company personnel are active within the Swedish standards and in ISO TC 45.

Göran Spetz is chairman of the Swedish SIS Committee for Rubber and chairman of three working groups in ISO/TC45. Ann-Cathrine Magnå is chairman of TC45/SC4/WG2 sealing rings. Both of them also participate in several other working groups.

The involvement in the standardisation gives a good knowledge of the latest test methods. It's also an opportunity to meet several interesting people like the chemistry Nobel Prize winner, Mr Tanaka from Shimadzu in Japan.



Engineer Kichi Tanaka received the Nobel Prize in Chemistry in 2002. He held a lecture at the ISO TC meeting in Kyoto that year, soon after hearing about his prize, hence the presence of Japanese television. Göran Spetz welcomes him to Sweden.



Accelerated weathering and light stability tests of products and materials



Pertti Steenari with the QUV Accelerated Weathering Tester, to the left, and the Q-SUN Xe-1 xenon arc chamber in Elastocon's testing laboratory.

Elastocon offers accelerated weathering and light stability tests of products and materials on a smaller scale in our own laboratory.

This testing is done in two types of test equipment from Q-Lab:

- QUV Accelerated Weathering Tester with UV light and moisture.
- Q-SUN Xe-1 xenon arc chamber which reproduces the damage caused by full-spectrum sunlight.

For customers within the Nordic countries, who requires testing of products and materials on a larger scale, we can also pass on requests to Q-Lab's testing laboratory in Germany and outdoor exposure testing at Q-Lab's desert and subtropical climate facilities in Arizona and Florida.

For more information or quotes regarding weathering and light stability tests, please contact Pertti Steenari:
pertti.steenari@elastocon.se



Q-Lab's subtropical climate facility in Florida, USA.

Material selection – specifications

We can assist you with a material specification for the material in your products and make ongoing tests of your delivered products. This can be very important for your product quality, especially if you use a supplier far away from you.

Education

Do you need customized training regarding testing and calibration, either with us or at your site? Please contact us for more information.



Examples of test methods

Test methods for rubber

ISO 34-1	A and C	Determination of tear strength
ISO 36		Determination of adhesion to textile fabrics*
ISO 37		Determination of tensile stress-strain properties
ISO 48	N and M	Determination of hardness, IRHD
ISO 188	A	Accelerated ageing and heat resistance tests
ISO 815-1	A and B	Determination of compression set at ambient or elevated temperatures
ISO 815-2	A and B	Determination of compression set at low temperatures, LTCS
ISO 1407		Determination of solvent extract*
ISO 1408		Determination of carbon black content – pyrolytic and chemical degradation methods*
ISO 1432		Determination of low temperature stiffening, Gehman test
ISO 1817		Determination of the effect of liquids
ISO 2285	A and B	Determination of tension set under constant elongation, and of tension set, elongation and creep under constant tensile load*
ISO 2781		Determination of density*
ISO 2921		Determination of low temperature retraction, TR-test
ISO 3384-1	A and B	Determination of stress relaxation in compression, testing at constant temperature
ISO 4665		Resistance to weathering*
ISO 6914	A	Determination of ageing characteristics by measurement of stress relaxation in tension

ISO 7619-1	A, D and AM	Determination of indentation hardness, Shore
ISO 7743		Determination of compression stress-strain properties*
ISO 8013		Determination of creep in compression or shear*
ISO 11346		Estimation of lifetime and maximum temperature of use

Test methods for plastic

ISO 175		Determination of the effects of immersion in liquid chemicals*
ISO 527		Determination of tensile properties*
ISO 868	A and D	Determination of indentation hardness by means of a durometer (Shore hardness)*
ISO 899		Determination of creep behavior – tensile creep*
ISO 1183-1	A	Determination of the density of non-cellular plastics*
ISO 4892-2		Methods of exposure to laboratory light sources – xenon-arc lamps*
ISO 4892-3		Methods of exposure to laboratory light sources – Fluorescent UV lamps*

Other test methods

ASTM D 2244		Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates*
Various standards		Gloss measurement*
ISO 6452		Determination of fogging characteristics of trim materials in the interior of automobiles*

* Not included in accreditation.

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