



**SHATE-M
SERVICE**
TEST LAB

TESTLAB.SHATE-M.BY/EN

Main Directions of the Lab Activities

Lab activities are focused on satisfaction of the needs of auto components manufacturers, certification authorities, consumers and the other interested parties.

Testing lab SHATE-M SERVICE LLC **is accredited** by the Belarusian State Centre of Accreditation (BSCA) for compliance with the requirements of the international standard **ISO/IEC 17025:2017 (GOST ISO/IEC 17025:2019)**, certificate of accreditation No. BY/112 2.5360.

Accreditation is recognized by the International accreditation organizations EA and ILAC.

Test results for compliance with the requirements of TR CU 018/2011 are recognized within the complete territory of EAC.



17025
CERTIFIED



Detailed information about the test parameters and Technical Normative Legal Acts for testing methods can be found at the BSCA website by the link below:

<https://bsca.by/en/registry-testlab/view?id=6858>

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Main Directions of the Lab Activities

2



Certification tests of auto components for compliance with the Technical Regulation of the Customs Union



Participation in commodity legal expertise as an expert laboratory



Products quality analysis. Examination of warranty cases. Check and analysis of reasons for returns, refuses and damage



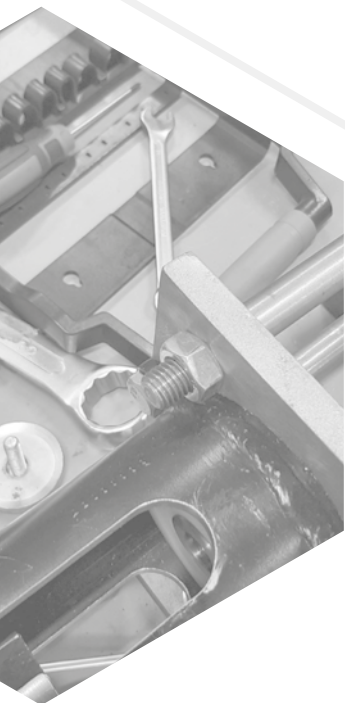
Incoming inspection of the purchased products



Comparative tests



Research activity for design and development of auto components



Provided Services

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1 For auto components manufacturers

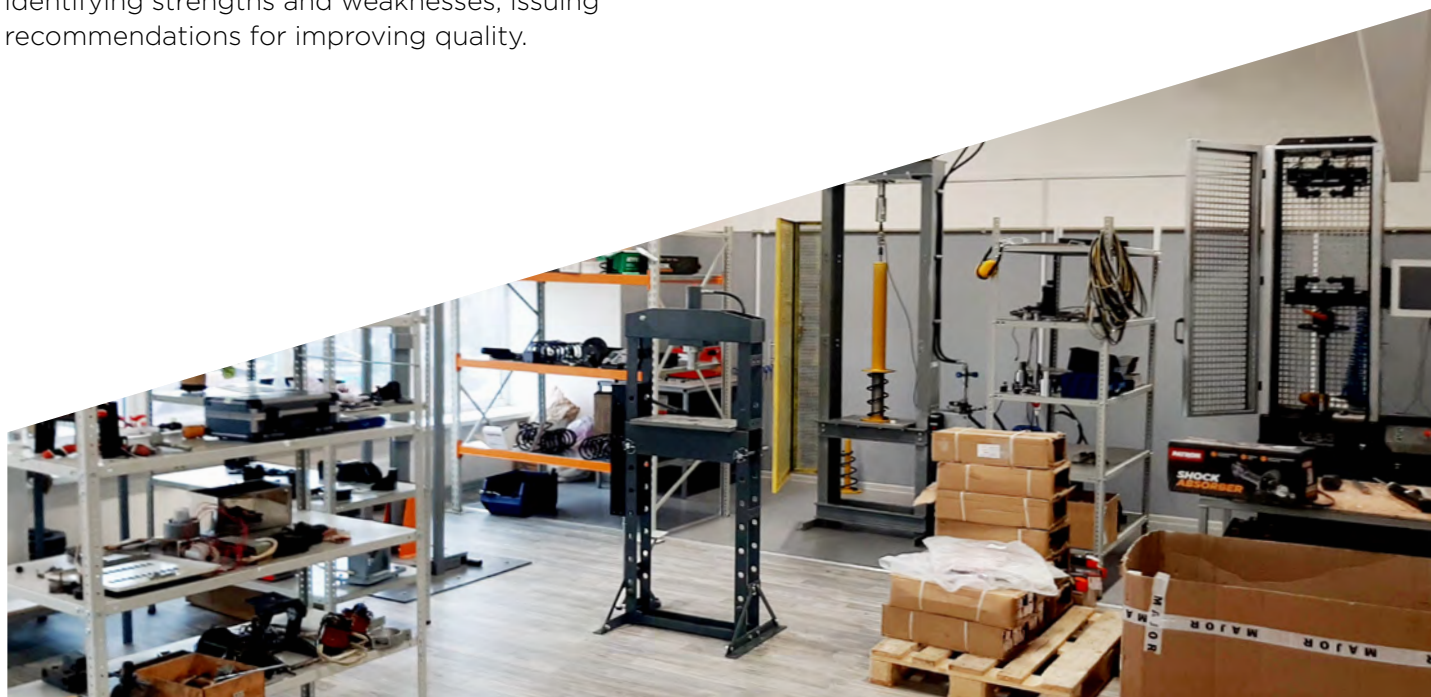
- Certification tests of auto components, as well as product testing within the scope of periodic, typical and qualification tests for compliance with the Technical Regulations of the Customs Union TR CU 018/2011 (On the safety of wheeled vehicles), state standards of the Republic of Belarus, EAC standards and special requirements of developers and manufacturers of these products according to the scope of laboratory accreditation;
- Activities within the framework of applied scientific and research, design and experimental and diagnostic works in order to design and develop the production of auto components in accordance with the scope of accreditation and the technical capabilities of the laboratory.

2 For suppliers, manufacturers' representatives, consumers and the other interested parties

- Quality analysis, technical expertise, investigation of technical failures, identification of causes and recommendations for improving quality during incoming inspection, when analyzing the quality of supplied and purchased products, in warranty cases, in resolving disputes;
- Carrying out comparative tests of the same type of products from different manufacturers at a high technical level, using the necessary diagnostic and analysis tools, identifying strengths and weaknesses, issuing recommendations for improving quality.

3 For certification authorities and organizations supervising the quality of goods and services

- Certification tests of auto components, as well as tests of products in the scope of periodic, typical and qualification tests for compliance with the Technical Regulations of the Customs Union TR CU 018/2011 (On the safety of wheeled vehicles), state standards of the Republic of Belarus, EAC standards and special requirements of developers and manufacturers of this products according to the scope of accreditation of the laboratory.



Technical Capabilities

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Lab is located on an area of **300 sq.m.** and has **more than 100 units** of modern testing equipment and measuring instruments for its activities. The lab is constantly expanding technical capabilities, test methods and scope of accreditation for these product groups and methods.

List of tested auto components:



Brake disc calipers



Wheel brake cylinders of brake drums



Brake force regulators



Master brake cylinders



Hydraulic drive brake pipes and hoses



Hydraulic drive clutch hoses and steering hoses



Parking brake cables assy



Suspension parts



Technical Capabilities

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List of tested auto components:



Sleeves of the hydraulic power steering and platform tipping device of a dump truck



Suspension and steering ball joints



Elastic suspension elements (cylindrical coil springs)



Telescopic hydraulic shock-absorbers



Protective sealings



Drive roller chains and sleeve chains



V-belts



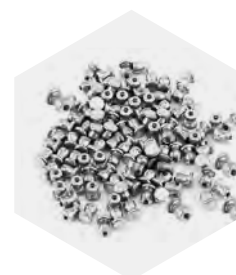
Timing belts for gas distribution mechanism of car engines



Cylinder-piston group parts



Gas distribution mechanism parts



Antiskid studs

Test Parameters of Auto Components

Tests of auto components are carried out for compliance with the technical requirements of the current TNLA, as well as safety requirements in accordance with **TR CU 018/2011** within the scope of accreditation.

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Brake system products (brake cylinders, brake hoses and pipes, clutch cylinders and hoses):

- hydraulic leakproofness;
- hydraulic strength;
- working efficiency and fatigue life циклическую долговечность at higher and lower temperatures;
- material resistance to the operating fluids;
- mechanical tensile strength (hoses);
- frost resistance of the protective elements (dust boots).



Suspension and steering ball joints (ball joints, steering tie rod ends, stabilizer links etc.):

- rotation torque (swivel moment) of ball pin;
- pivot angle of ball pin;
- pull-out (extruding) force of ball pin from the body;
- frost resistance of the protective elements (dust boots);
- impact resistance of ball pin.

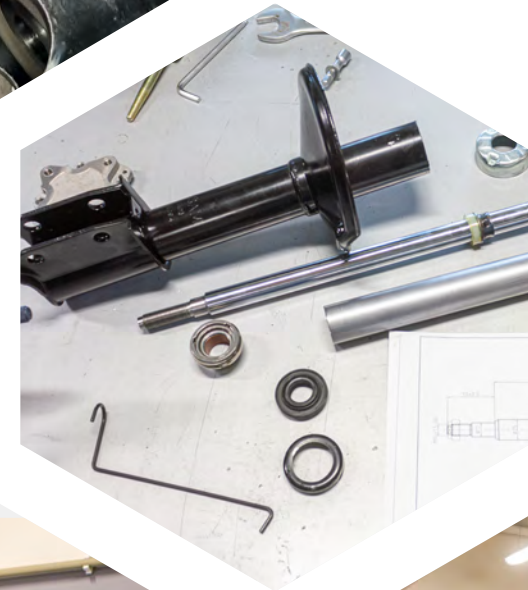
Test Parameters of Auto Components

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Suspension shock-absorbers (hydraulic, gas-filled hydraulic, struts etc.):

- determination of geometrical parameters and mass;
- determination of force characteristics of the shock-absorber (compression and rebound forces) at various piston rod speeds;
- determination of the temperature characteristic of the shock absorber (dependence of the force characteristics on the temperature);
- determination of the shock-absorber temperature characteristics (curve of force characteristics and temperature);
- determination of operating defects (jamming, knocking, etc.)



Suspension coil springs:

- determination of geometrical parameters ;
- determination of force characteristics;
- determination of stiffness;
- determination of permanent deformations (compression) due to the load action;
- visual defects (cracks, delaminations, rough edges, corrosion, etc.)



Test Parameters of Auto Components

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Cylinder-piston group parts (piston pins, valves, valve lifters):

- Rockwell hardness;
- surface roughness (Ra, Rz, Rmax);
- linear measurement of geometrics parameters

Timing chains:

- tensile strength

Dust boots, seals and the other protective vehicle elements:

- frost resistance



Test Parameters of Auto Components

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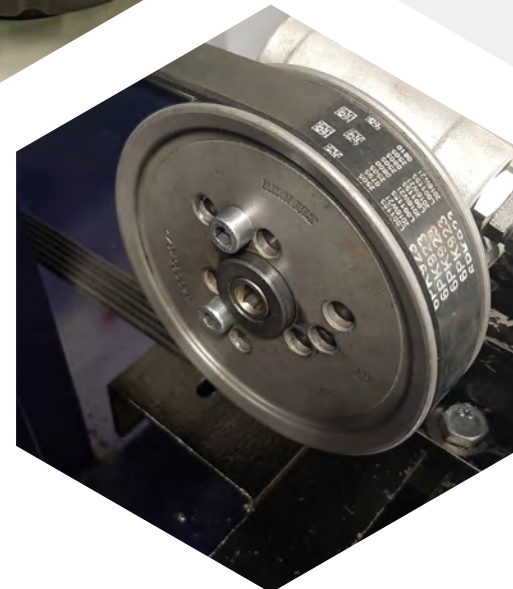
Power steering and high pressure hoses:

- hydraulic leakproofness;
- hydraulic strength;
- frost resistance;
- fatigue life



V-belts, timing belts:

- temperature resistance test under bending



Additional Research Activities out of Accreditation Scope

Additionally, out of the accreditation scope the laboratory performs different kinds of research activities within the framework of applied scientific and research, design and experimental and diagnostic works of the following groups of auto components:

Steering pumps:

- determination of performance and leakproofness at various rotation rates of the drive shaft;
- determination of the produced pressure at various rotation rates of the drive shaft;
- determination of the operating fluid consumption at various rotation rates of the drive shaft;
- determination of the operating pressure of pump check valve;
- visual and internal defects

Power steering rack assemblies:

- working efficiency in various operating modes;
- leakproofness in various operating modes;
- visual defects



Additional Research Activities out of Accreditation Scope

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Electric fuel pumps:

- working efficiency;
- leakproofness;
- performance test (supply line pressure, capacity);
- visual defects



Brake discs:

- hardness;
- roughness of working surfaces;
- runout of working surfaces;
- visual defects

Lab staff is highly qualified personnel with extensive practical experience in laboratory activities in the field of quality control of auto components.



Contact Information

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