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TECHNICAL REGULATION
OF THE CUSTOMS UNION
TR CU 010/2011

“ON SAFETY OF MACHINES AND EQUIPMENT”

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Foreword

1. This Technical Regulation has been developed in accordance with the Agreement on common principles and rules of technical regulation in the Republic of Belarus, the Republic of Kazakhstan and the Russian Federation of November 18, 2010.

2. This Technical Regulation has been developed with a purpose to establish in the single customs territory of the Customs Union common requirements mandatory to apply and implement the requirements for machines and (or) equipment as well as the requirements for design (construction), manufacture, installation, setting up, operation, storage, transportation, marketing and disposal, provision of free movement of machines and (or) equipment placed on the market of the single customs territory.

3. In case other technical regulations of the Customs Union, technical regulations of the Eurasian Economic Community (further – EurAsEC) establishing the requirements for machines and (or) equipment may be adopted, machines and (or) equipment must comply with the requirements of these technical regulations of the Customs Union and EurAsEC, which are applied to them.

Article 1. Scope

1. This Technical Regulations applies to machines and (or) equipment placed on the market in the customs territory of the Customs Union.

2. This Technical Regulation defines the minimum necessary requirements for safety of machines and equipment during design (construction), manufacture, installation, setting up, operation, storage, transportation, marketing and disposal for the purposes of safety of life or health of citizens, property, protection of environment, life and health of animals and prevention of the actions misleading the consumers.

3. This Technical Regulation applies to all machines and (or) equipment, for which the hazards are identified and the requirements for disposal and reduction are specified in accordance with Annexes NN 1 and 2.

4. This Technical Regulation doesn't apply to the following machines and (or) equipment:

- machines and (or) equipment related to integrity and stability of functioning of the communication network and use of the radio-frequency spectrum;
- machines and (or) equipment for medical purposes and used in direct contact with a patient (X-ray, diagnostic, therapeutic, orthopedic, dental and surgical equipment);
- machines and (or) equipment, specially designed for application in nuclear industry. For machines and (or) equipment of general purposes used in nuclear industry this Technical Regulation applies to the extent not contradicting the requirements of nuclear and radiation safety;
- wheeled transport except for machines and (or) equipment installed on it;

- marine and river transport (ships and floating means and machines and (or) equipment used on them);

- space and aircraft;

- railway equipment and technical means specially designed for use in railway transport and subway;

- attractions;

- weapons and military equipment;

- machines and (or) equipment designed for use by handicapped people;

- agricultural and forest tractors and trailers, except for machines and (or) equipment mounted on them;

- drilling platforms except for machines and (or) equipment, which are used on them.

5. This Technical Regulation applies to machines and (or) equipment used at industrial hazardous facilities.

6. Where the risks caused by machines and (or) equipment are specified in full or partially in other technical regulations of the Customs Union and EurAsEC, machines and (or) equipment must meet the requirements of technical regulations of the Customs Union, EurAsEC, which are applied to them.

7. Identification of machines and (or) equipment is understood as establishment of conformity of specific machines and (or) equipment with a sample or their description, for which purpose standards indicated in Article 6 of this Technical Regulation, classifiers, specifications and drawings, technical specifications, operational documentation can be used.

8. Additional safety requirements for particular categories of machines and (or) equipment are set up in accordance with Annex N 2.

Article 2. Definitions

1. In this Technical regulation the following terms and definitions are used:

- “failure of machines” - destruction or damage of machines and (or) equipment resulting in operation of machines and (or) equipment, uncontrollable explosion and (or) emission of dangerous and harmful substances;
- "admissible risk" - risk effect from application of a machine and (or) equipment proceeding from technical and economic capabilities of a manufacturer appropriate to a level of safety, which should be ensured at all stages of life cycle;
- “life cycle of machines” - time period from the start of design of machine and (or) equipment up to disposal including interrelated stages (design, manufacture, storage, installation, setting up, operation, including improvement, repairs, technical and after-sales service);

- “failure“- failure of a machine and (or) equipment, deviation from a mode of technological regime;
“failure to danger” - failure of a machine and (or) equipment, which may result in harm to life or health of the citizens, property, environment, life or health of animals and plants;
- “machine” (machinery)– assembly of linked parts or components, at least one of which moves with the help of the appropriate machine actuators, control and power circuits joined together for a specific application (for example, treatment, processing, moving or packaging of material);
- mobile energy-converting machines" - tractors, universal energy-converting machines, motor-vehicle chassis;
- “intended life" - total operating time, attaining which operation of machines and (or) equipment should be stopped irrespective of their technical condition;
- "operating time" - duration or volume of work of a machine and (or) equipment;
- "intended life cycle" – calendar duration of operation of a machine and (or) equipment attaining which operation should be stopped irrespective of their technical condition;
- ”intended storage period" - calendar duration of storage of a machine and (or) equipment, attaining which storage should be stopped irrespective of its technical condition;
- “intended use” - use of a machine and (or) equipment according to the intended purpose declared by a manufacturer in operational documents;
- "safety justification " - document, which contains risk analysis as well as information from design, operational and technological documentation related to minimum required measures of safety and which accompanies machines and (or) equipment at all stages of life cycle and supplemented by information on risk assessments at operation stage after major repair;
- “equipment" - technical device applied individually or installed on a machine and required for performing its main and/or additional functions, as well as for combining several machines into one unit;
- fault” - event, consisting of infringement of efficient condition of machine and (or) equipment owing to constructive failures at designing, non-observance of established process of manufacture or repair, non-observance of the prescribed process of manufacturer or repair, default of rules or operation manuals (instructions);
- “limiting state” – state of a machine and (or) equipment, under which their further operation is inadmissible or inexpedient, or restoring of their capacity to operate is impossible or inexpedient;
- “machine to be linked" - mobile towed, semi-towed, mounted, semi-mounted or mounted on a mobile energy-converting machine designed to perform operations on production and primary processing of agricultural products, etc.;
- “designer (constructor)” - legal or natural person developing design documentation for a new type of a machine and equipment; technical documentation for type development and its production;
- designer (constructor) of a system” – legal or natural person developing design
- documentation for systems of machines and (or) equipment (technological lines, interconnected by production cycle);

- agricultural machine-tractor aggregate – combination of energy-converting machine with trailer, semi-trailer or mounted machine (or machines), and designed to meet technological agricultural operations;
- "system of machines and equipment" - set of machines and (or) equipment incorporated structurally and (or) functional for performance of the required functions;
- danger" - potential source to cause damage to life and health of the citizens, property and environment;
- "danger zone" - any zone, in which the exposed person is subject to dangerous factors generated by machines or equipment;
- "risk" - combination of possibility of causing damage and consequences of this damage to life or health of citizens, property, environment, life and health of animals and plants.

Article 3. Rules of placing machines on the market

1. Machines and (or) equipment shall be placed on the market of the customs territory of the Customs Union in case they comply with this Technical Regulation and other technical regulations of the Customs Union and EurAsEC, which apply to these machines, and (or) equipment, and if they have passed the required conformity assurance with this Technical Regulation and other technical regulations of the Customs Union and EurAsEC, which apply to these machines and (or) equipment.

Machines and (or) equipment failing to comply with the requirements of this Technical Regulation must not be marked with a single mark of placing the products on the market of the Members-States of the Customs Union and should not be released for circulation on the single customs territory of the Customs Union.

Article 4. Provision of safety of machines and (or) equipment at the stage of design (construction)

1. When designing (constructing) machines and (or) equipment, the possible hazards shall to be identified at all stages of life cycle.

2. For the identified hazards the risks shall be evaluated by calculations, experiments, expert practice or on a basis of data of operation of similar machines and (or) equipment. The methods of risk evaluation can be established in standards indicated in paragraph 1 of Article 6 of this Technical Regulation.

3. When designing (constructing), the admissible risk for a machine and (or) equipment shall be defined. The level of safety appropriate to the established risk is to be ensured by:

- full volume of research, scientific, and experimental - design practice;
- execution of a complex of necessary calculations and tests based on techniques verified according to the prescribed procedures;
- selection of materials and substances used in certain types of machines and (or) equipment depending on parameters and operation conditions;
- establishing by a designer (constructor) of criteria for limiting states;

- establishing by a designer (constructor) of the intended life cycle, assigned resources, operation, repair and disposal dates.
- identification of all hazards related to predictable misuse of a machine and (or) equipment;
- restriction in use of machines and (or) equipment.

4. If the estimated risk is above the admissible level, design of a machine or equipment shall be changed for its reduction, and any intervention of personnel in working regimes of machine and (or) equipment shall be excluded (unless it's stipulated by operation manuals (instructions)).

5. Where it's impossible to achieve technical characteristics of a machine and (or) equipment specifying admissible risks, or also in case of economical inexpediency, the appropriate information shall be foreseen in operation manuals (instructions), restricting use of this machine and (or) equipment or warning with regard to undertaking safety measures.

6. At the stage of design (construction) the levels of physical factors, generated by a machine and (or) equipment (level of noise, infrasound, air and contact ultra sound, local and common vibration, electromagnetic fields) as well as levels of the evolved chemicals shall not exceed the limits providing safety at operation.

7. When designing (constructing) a machine and (or) equipment, a justification of safety shall be developed.

Original of justification of safety of a machine and (or) equipment shall be kept with a designer (constructor) and a copy – with a manufacturer of machine and (or) equipment and an organization operating machines and (or) equipment.

8. Development of operation manuals (instructions) is an integral part of design (construction) of a machine and (or) equipment.

Operation manuals (instructions) shall include:

- information on design principle of operation, characteristics (properties) of machines and (or) equipment;
- instructions on installation and assembly, setting up and adjusting, technical maintenance and repair of a machine and (or) equipment);
- instruction on use of a machine and (or) equipment and safety measures to follow at operation stage of a machine and (or) equipment), including commissioning, use for intended purpose, technical maintenance, all types of repair, periodic diagnosing, testing, transportation, packaging, conservation and storage conditions;
- intended characteristics (intended storage period and service life and (or) intended life) depending on design features. Upon expiration of intended characteristics (intended storage, service and life cycle) a machine and (or) equipment shall be withdrawn from operation and a decision shall be taken on their repair, disposal, checking and fixing new intended characteristics (intended storage service and life cycle).
- list of critical failures, possible faulty actions of personnel, which may result in incident or breakdown;
- actions of personnel in case of incident, critical failure or breakdown;
- criteria of limiting states;

- instructions on withdrawal from operation and disposal;
- information on competences of service staff.

9. Where a machine and (or) equipment are intended for use by non- professional operators, operation manuals (instructions) shall take account of knowledge, skills and experience of such operators.

Article 5. Provision of safety of machines and (or) equipment at the stages of manufacture, storage, transportation, operation and disposal

1. When manufacturing machines and (or) equipment, they shall be in compliance with the requirements of design (construction) documentation and this Technical Regulation.

2. When manufacturing machine and (or) equipment, the manufacturer shall carry out all complex of safety measures specified by design (construction) documentation. The opportunity shall be foreseen to control performance of all technological operations, ensuring safety.

3. When manufacturing a machine and (or) equipment, the tests, prescribed by design (construction) documentation shall be carried out.

4. When manufacturing a machine and (or) equipment, the requirements for safety of machine and (or) equipment shall be foreseen with regard to safety established in design (construction) documentation in accordance with the applied technological processes and control system. The manufacturer must evaluate risks of machines and (or) equipment before placing them on the market.

5. The deviations from the design (construction) documentation of a machine and (or) equipment at the stage of manufacture shall be coordinated with a designer (constructor). The risk of use of a machine and (or) equipment manufactured in accordance with the agreed design (construction) documentation shall not exceed the admissible risk level, established by a designer (constructor).

6. The manufacturer of a machine and (or) equipment shall provide machines and (or) equipment with operation manuals (instructions).

7. Machine and (or) equipment shall have necessary legible and indelible warnings or marks about danger character.

8. Machine and (or) equipment shall have a legible and indelible identification inscription containing the following:

- name of a manufacturer and (or) his trade mark;
- name of a product and (or) a designation of a machine and (or) equipment (type, trade make, model (if any));
- month and year of manufacture.

9. If information of paragraph 8 of this Article can not be affixed on a machine and (or) equipment, it can be specified only in the accompanying manuals on use (instructions). The name of manufacturer and (or) his trade mark, name and designation of a machine and (or) equipment (type, make, model (if any) must be affixed on packaging.

10. The information referred to in paragraph 8 of this Article shall be included in the manuals (instructions) on use. In additional, the manuals (instruction) on use must include:

- name and location of a manufacturer, his contact information;
- name and location of a person authorized by the manufacturer, his contact information.

11. The manuals (instruction) on use shall be prepared in the Russian language and in the national language (languages) of a Member State (s) of the Customs Union in case of the relevant requirements in legislation of a Member State (s) of the Customs Union.

The manuals (instruction) on use shall be on paper with the attached set of electronic disks. The manuals (instruction) on use being a part of non-household machine and (or) equipment may be provided only in electronic form.

12. The materials and substances used for packaging of machine and (or) equipment) must be safe.

13. Transportation and storage of machines and (or) equipment, their units and parts shall be performed in view of the requirements on safety, provided by the design (construction) and operational documentation.

14. During technical servicing, repair and checks of a machine and (or) equipment the requirements established by the operation manuals (instructions), program on performing technical servicing or repair during the whole period of these works must be observed.

15. The deviations from design of a machine and (or) equipment, which may arise at their repair shall be coordinated with a designer (constructor).

16. After major repair of a machine and (or) equipment evaluation of risk shall be carried out. The risk value must not exceed the admissible level. Where necessary, technical and administrative measures shall be developed, which are aimed at achievement of values of admissible risk.

17. Where the repaired machine and (or) equipment) fail to meet the requirements of design (construction) documentation, the measures shall be developed to ensure risk values set out in justification of safety taking into account technological processes and control system.

18. The recommendations on safe disposal of a machine and (or) equipment must be provided in the manuals (instruction) on use.

19. When designing a machine and (or) equipment the measures to prevent non-intended use of a machine and (or) equipment) after the specified life or service cycle must be provided in the manuals (instruction).

Article 6. Provision of compliance with safety requirements

1. Compliance of machines and (or) equipment with this Technical Regulation must be ensured by direct implementation of its requirements or the requirements of interstate standards and , in case they are not available (prior to adoption of interstate standards), national (state) standards of the Member States of the Customs Union provided compliance with the requirements of a technical regulation of the Customs Union and standards containing rules and methods of reseacrhes (testing) and measurements including the rules of sampling required for application and implementation of the requirements of this Technical Regulation and performance of conformity assessment (conformity assurance) of the products (further – standards) for particular type of machines and (or) equipment).

Performance on a voluntary basis of the requirements of these standards certifies compliance of machines and (or) equipment) with the safety requirements of this Technical Regulation.

Article 7. Conformity assessment

1. Machines and (or) equipment placed on the market in the customs territory of the Customs Union are subject to assessment of conformity with the requirements of this Technical Regulation.

Conformity assessment with the requirements of this Technical Regulation shall be performed in the form of conformity assurance and state control (supervision).

Machines and (or) equipment, used or manufactured for the manufacturers' own needs and also components and spare parts for machines and (or) equipment intended for repair (technical maintenance) of machines and (or) equipment are not subject to for conformity assurance with the requirements of this Technical Regulation.

Article 8. Conformity assurance

1. Conformity assurance of machines and (or) equipment must be performed in accordance with the uniform procedures approved by the Commission of the Customs Union.

2. Conformity assurance of machines and (or) equipment with the requirements of this Technical Regulation must be performed in a form of:

certification by an accredited certification body (conformity assessment/ assurance body) (further – a certification body), included in the Unified Register of certification bodies and testing laboratories (centres) of the Customs Union;

declaration of conformity on the basis of own proofs and (or) the proofs received with participation of a certification body or an accredited testing laboratory (centre), included in the Unified Register of certification bodies and testing laboratories (centres) of the Customs Union (further – accredited testing laboratory (centre)).

3. Certification must be carried out in respect of machines and (or) equipment included in the List of the objects of technical regulation, which are subject to conformity assurance with the requirements of Technical Regulation of the Customs Union “On safety of machines and equipment” in a form of certification specified in Annex N 3.

4. Declaration of conformity must be carried out by an applicant in respect of machines and (or) equipment included in the List of the objects of technical regulation, subject to conformity assurance with the requirements of this Technical Regulation of the Customs Union "On safety of machines and equipment" in the form of declaration of conformity set forth in Annex N 3.

5. By decision of an applicant, declaration of conformity of machines and (or) equipment included in the List referred to in item 1 of paragraph 2 of this Article can be replaced by certification schemes equivalent to the schemes of declaration of conformity foreseen for machines and (or) equipment under this Technical Regulation, even in case of absence or inadequacy of an applicant's own evidence confirming compliance with this Technical Regulation.

6. Declaration of conformity or a certificate of conformity is the only document confirming compliance of machines and (or) the equipment s with the requirements of 7. Declaration of conformity and a certificate of conformity must have equal legal force and take effect in the customs territory of the Customs Union in respect of machines and (or) equipment placed on the market in the customs territory of the Customs Union at the time of validity of a declaration of conformity or a certificate of conformity for each unit (a machine and (or) equipment) during its lifetime.

8. Information about declaration of conformity or a certificate of conformity must be indicate in a passport for a machines and (or) equipment.

9. During conformity assurance it must be checked the compliance of machines and (or) equipment with the requirements of this Technical Regulation, specified directly or set forth in standards referred to in Article 6 of this Technical Regulation.

10. During conformity assurance of machines and (or) equipment an applicant must prepare a set of documents for machines and (or) equipment, confirming compliance with safety requirements of this Technical Regulation, which includes:

justification of safety;

technical specifications (if any);

operational documents;

list of standards referred to in Article 6, with which requirements the machines and (or) equipment must comply;

contract (agreement for supply) (for a batch, unit of product) or shipping documentation (for a batch, unit of product);

certificate of management system of a manufacturer (if any);

information of carried out researches (if any);

test reports of a machines and (or) equipment carried out by a manufacturer, a seller, a person executing functions of a foreign manufacturer and (or) testing laboratories (centres) (if any);

certificates of conformity of materials and components or their test reports (if any);

certificates of conformity of machines and (or) equipment received from foreign certification bodies (if any);

other documents directly or indirectly confirming compliance of machines and (or) equipment with the safety requirements of this Technical Regulation (if any).

Article 9. Procedure for declaration of conformity of machines and (or) equipment

Declaration of conformity of machines and (or) equipment shall be carried out under the following schemes:

Scheme 1d for serial production of machines and (or) equipment shall include the following actions:

An applicant shall prepare a set of documents stipulated in paragraph 10 of Article 8, carry out production control and undertake all necessary measures that production processes ensure compliance of machines and (or) equipment) with the requirements of this Technical Regulation, carry out tests of samples in a testing laboratory (centre) or an accredited testing laboratory (centre), issue and register a declaration of conformity.

Scheme 2d for a batch of machines and (or) equipment (unit of product) shall include the following actions:

An applicant shall prepare a set of documents referred to in paragraph 10 of Article 8, carry out tests in a testing laboratory (centre) or an accredited testing laboratory (centre), issue and register a declaration of conformity.

Scheme 3d for a serial production of machines and (or) equipment shall include the following actions:

an applicant shall prepare a set of documents stipulated in paragraph 10 of Article 8, carry out production control and undertake all necessary measures that production processes ensure compliance of machines and (or) equipment) with the requirements of this Technical Regulation, carry out tests of samples in an accredited testing laboratory (centre) , issue and register a declaration of conformity.

Scheme 4d for a batch of machines and (or) equipment (unit of product) shall include the following actions:

an applicant shall prepare a set of documents stipulated in paragraph 10 of Article 8, carry out tests of samples in an accredited testing laboratory (centre) , issue and register a declaration of conformity.

Scheme 5d shall be applied for machines and (or) equipment:

used at dangerous industrial objects;

in case it seems impossible to carry out tests of machines and (or) equipment in full volume before their mounting at site;

in case an applicant doesn't apply for conformity assurance standards referred to in paragraph 1 of Article 6 of this Technical Regulation, including innovative products.

This scheme shall include the following actions:

an applicant shall prepare a set of documents set forth in paragraph 10 of Article 8; carry out production control and undertake all necessary measures that production processes ensure compliance of machines and (or) equipment with the requirements of this Technical Regulation and submit to a certification body an application for type testing;

a certification body shall carry out type testing taking account of the documents received from an applicant. In case an applicant doesn't apply standards referred to in paragraph 1 of Article 6 of this Technical Regulation, a certification body shall evaluate a possibility to replace the requirements

of these standards by the declared requirements. Depending on the documents submitted by an applicant, type testing may be carried out by one of the following methods:

- type testing as a type for follow-up production of machines and (or) equipment;
- review of the submitted documents, type testing or testing of critical components of machines and (or) equipment);
- expertise of the submitted documents without type testing.

In case of positive results of type testing a certification body shall issue a type certificate according to a unified form approved by the decision of the Commission and deliver it to an applicant. Type certificate is an integral part of a declaration of conformity and the declared requirements for machines and (or) equipment described in it shall be recognized as a sufficient proof of compliance with the requirements of this Technical Regulation. It shall be used at inspection of the state control (supervision) bodies checking compliance with this Technical Regulation.

An applicant shall issue and register a declaration of conformity.

Scheme 6d for serial production of machines and (or) equipment with a certified management system shall include the following actions:

An applicant shall prepare a set of documents referred to in paragraph 10 of Article 8 including a certificate of management system (a copy of a certificate of conformity) issued by a certification body on management systems and listed in the Unified Register on certification bodies and testing laboratories (centres) of the Customs Union; carry out production control and undertake all necessary measures to ensure that production processes of machines and (or) equipment comply with the requirements of this Technical Regulation; carry our tests in an accredited testing laboratory (centre); issue and register a declaration of conformity.

For declaration under schemes 1d,3d, 5d and 6d an application can be a legal entity or an individual entrepreneur registered in accordance with legislation of the Member State Customs Union in its territory, being a manufacturer or executing the functions of a foreign manufacturer on the basis of a contract in terms of conformity assurance of the supplied products with the requirements of this Technical regulation of the Customs Union and liability for non-compliance of the supplied products with the requirements of this Technical regulation (a person executing functions of a foreign manufacturer).

For declaration under schemes 2d, 4d an applicant can be a legal entity or an individual entrepreneur registered in accordance with legislation of the Customs Union in its territory, being a manufacturer or a seller, or executing the functions of a foreign manufacturer on a basis of a contract in terms of compliance of the supplied products with the requirements of this Technical Regulation and liability for non-compliance of the supplied products with he requirements of this Technical Regulation of the Customs Union (a person executing the function of a foreign manufacturer).

Article 10. Composition of the documents in support being the ground for adoption of a declaration of conformity

1. As the documents in support being the ground for issuing a declaration of conformity on the basis of own proofs must serve the documents listed in paragraph 10 of Article 8 of this Technical Regulation as well as standards referred to in of Article 6 of this Technical Regulation.

2. The conditions of application of these documents are as follows:

1) for test reports:

availability in test reports of test values confirming compliance with all requirements set out by this Technical Regulation applying to specific declared products;
distribution of test reports for the declared machines and (or) equipment.

2) certificates of conformity, declarations of conformity or test reports for raw materials, components - if they determine safety of a final product, which are subject to conformity assurance;

3) certificates for quality management system - if they apply to the manufacture of the declared machines and (or) equipment;

4) other documents, directly or indirectly confirming compliance of machines and (or) equipment with the established requirements, certificates of conformity for the declared machines and (or) equipment issued under voluntary certification (subject to confirmation of all necessary requirements under the voluntary certification).

3. A declaration of conformity is to be issued according to a uniform form, approved by the Commission of the Customs Union.

A declaration of conformity must be registered in accordance with the procedure approved by the Commission of the Customs Union. The validity of a declaration of conformity must start from the date of its registration. The validity period of a declaration of conformity is not more than 5 years.

4. An applicant must keep a declaration of conformity and documents in support within 10 years from the moment of expiration of a declaration of conformity.

A set of documents confirming compliance must be provided to the state control (supervision) bodies upon their request.

Article 11. Procedure for certification of machines and (or) equipment

1. Certification of machines and (or) equipment must be carried out according to the following schemes:

Scheme 1c for serial production of machines and (or) equipment must include the following actions:

An applicant shall prepare a set of documents; referred to in paragraph 10 of Article 8 and apply for certification to a certification body;

A certification body shall take samples for testing from an applicant.

An accredited testing laboratory (centre) listed in the Unified Register of certification bodies and testing laboratories (centres) of the Customs Union (further – an accredited testing laboratory (centre)) shall carry out tests of samples of machines and (or) equipment;

A certification body shall analyse the production of a manufacturer and the results of tests of samples of machines and (or) equipment, and in case of positive results it shall issue a certificate of conformity to an applicant.

A certification body shall carry out the inspection control of the certified machines and (or) equipment by testing samples in an accredited testing laboratory (centre) and (or) production analysis.

Scheme 3c for a batch of machines and (or) equipment (unit of product) shall include the following actions:

An applicant shall prepare a set of documents; referred to in paragraph 10 of Article 8 and apply to a certification body for certification;

A certification body and an accredited laboratory (centre) shall take samples for testing from an applicant.

An accredited testing laboratory (centre) shall carry out tests of samples of machines and (or) equipment);

A certification body shall analyse the results of tests of samples of machines and (or) equipment, and in case of positive results issue a certificate of conformity to an applicant;

Scheme 9c for a batch of machines and (or) equipment of limited volume intended to equip businesses in the Customs Union shall include the following actions:

An applicant shall prepare a set of documents; referred to in paragraph 10 of Article 8 and apply for certification to a certification body;

A certification body shall analyse a set of documents submitted by the manufacturer and in case of positive results issue a certificate of conformity to an applicant ..

Under schemes 1c, 9c an applicant can be a legal entity or an individual entrepreneur registered in accordance with legislation of the Customs Union in its territory, being a manufacture or executing the functions of a foreign manufacturer on a basis of a contract in terms of compliance of the supplied products with the requirements of this Technical Regulation and liability for non-compliance of the supplied products with the requirements of this Technical Regulation of the Customs Union (a person executing the functions of a foreign manufacturer).

Under scheme 3c an applicant can be a legal entity or an individual entrepreneur registered in accordance with legislation of the Customs Union in its territory, being a manufacturer or a seller, or executing the function of a foreign manufacturer on a basis of a contract in terms of compliance of the supplied products with the requirements of this Technical Regulation and liability for non-compliance of the supplied products with the requirements of this Technical Regulation of the Customs Union (a person executing the functions of a foreign manufacturer).

2. An applicant may apply for a certification to any certification body that has in its scope of accreditation machines (or) equipment included in the List of machines and equipment, subject to conformity with the requirements of Technical Regulation of the Customs Union "On safety of machines and equipment" in the form of certification, approved by the Commission of the Customs Union.

An application for certification shall be drawn up by an applicant and must contain:

- name and address of an applicant;
- name and address of a manufacturer;
- information on a machine and (or) equipment) (composition) and identification characteristics (name, code under the Classifier for Foreign Economic Affairs of the Customs Union, the document in accordance with which a machine and (or) equipment has been manufactured, type of production – serial or batch production, agreement (contract) details, etc.);
- applied standard (standards) referred to in paragraph 1 of Article 6 of this Technical Regulation;
- certification scheme;

3. A certification body shall review an application and decide on a possibility of certification.

In case of a positive decision on certification, a certification body shall sign a contract for certification works with an applicant.

A certification body shall carry out certification works in accordance with a certification scheme, prepare a decision and in case of positive result issue a certificate of conformity to an applicant.

4. In case of a negative result on certification, a certificate body shall direct to an applicant a reasoned denial to issue a certificate of conformity.

5. Type testing (standard samples) or testing of a unit of machines and (or) equipment shall be carried out by an accredited testing laboratory (centre) on behalf of a certification body, to which a test protocol must be submitted.

6. Production analysis shall be carried out by a certification body at the manufacture's premises. A report shall be drawn up as to the results of this analysis.

In case of availability of a certified quality management system or development and manufacture management system of machines and (or) equipment, a certification body shall evaluate a possibility of this system to ensure stable production of machines and (or) equipment to be certified and complied with particular requirements of this Technical Regulation.

7. In case of positive results of inspections foreseen by a certification scheme, a certification body shall draw up a certificate of conformity and deliver it to an applicant.

A certificate of conformity shall be drawn up in accordance with a unified form approved by the Commission of the Customs Union.

Information about the issued certificate of conformity a certification body shall be submitted to the Unified Register of the issued certificates of conformity and registered declarations of conformity drawn up in accordance with a unified form.

8. Validity of a certificate of conformity for serial machines and (or) equipment shall be not more than 5 years, for the released batch validity period is not fixed.

9. A certificate of conformity may have annexes containing a list of specific articles covered by this certificate.

Annex shall be drawn up in case:

it is necessary to detail a group of homogeneous products manufactured by an applicant and certified pursuant to the same requirements.

it is necessary to specify a manufacturer's premises being parts of larger associations having uniform conditions of manufacture.

Article 12. Marking by a single mark of placing on the market of the Member States of the Customs Union

1. Machines and (or) equipment being in compliance with safety requirements of this Technical Regulation and passed the procedure of conformity assurance under Article 8 of this Technical Regulation must be marked by a mark of placing the products on the market of the Member States of the Customs Union.

2. Marking by a single mark of placing the products on the market of the Member States of the Customs Union shall be executed before placing machines and (or) equipment on the market.

3. A single mark of placing the products on the market of the Member States of the Customs Union must be affixed on each unit of machines and (or) equipment by any method ensuring clear and legible image during the whole life cycle of a machine and (or) equipment

A single mark of placing the products on the market of the Member States of the Customs Union must be affixed on a product.

4. It shall be allowed to affix a single mark of placing on the market of the Member States of the Customs Union only on packaging and repeat in the attached operational documents if it's not possible to affix it directly on a machine and (or) equipment.

5. Machines and or equipment shall be marked by a single mark of placing the products on the market of the Member States of the Customs Union in case they comply with the requirements of all technical regulation of the Customs Union, EurAsEC, which apply to them and foresee marking by a single mark of placing the products on the market of the Member States of the Customs Union.

Article 13. Safeguard clause

The Member States of the Customs Union must undertake all measures to restrict or ban placing on the market of machines and (or) equipment in the customs territory of the Customs Union as well as withdrawal from the market of machines and (or) equipment failing to comply with the requirements of this Technical Regulation.

**Annex N 1
to Technical Regulation
of the Customs Union
"On safety of machines and equipment"**

**ESSENTIAL REQUIREMENTS FOR SAFETY OF MACHINES AND (OR)
EQUIPMENT**

1. Machines and equipment must be adjusted and maintained without putting persons at risk when these operations are carried out under the conditions foreseen by the manufacturer.

2. When designing (constructing) and manufacturing machines and (or) equipment, the responsible persons must.

eliminate or reduce risk;

take measures for protection against risks;

inform consumers on protection measures, indicate whether any particular training is required and specify any need to provide technical protection measures.

3. When designing (constructing) and manufacturing machines and (or) equipment and when drafting operation manuals (instructions) on use of a machine and (or) equipment, a probability of admissible risk in use of a machine and (or) equipment) must be envisaged.

4. When a danger can arise because of inadmissible use, the design (construction) of a machine and (or) equipment must prevent such abnormal use. If it is impossible, the user's attention must be drawn to such situations in operation manuals (instructions) on use.

5. When designing (constructing) a machine and (or) equipment ergonomic principles must be implemented to reduce the discomfort, fatigue and psychological stress of the personnel to a minimum possible level.

6. When designing (constructing) a machine and (or) equipment, the constraints, to which the operator's actions are subject as a result of use of personal protection equipment, must be taken into account.

7. Machine and (or) equipment must be supplemented with all the essential special accessories necessary for safe adjustment, maintenance and use for purpose.

8. Machine and (or) equipment must be designed (constructed) so that raw materials, materials and substances used at their manufacture and use shall not endanger safety or health of people, property, environment, life or health of animals and plants.

The risks related to use of liquids and fluids must be excluded.

9. Additional lighting must be provided for safe use of a machine and (or) equipment.

Internal parts and spaces of a machine and (or) equipment requiring frequent inspection, adjustment and maintenance, must be provided with appropriate lighting ensuring safety.

When using a machine and (or) equipment, shadow areas, areas causing disturbances, dazzling and stroboscopic effects must be excluded.

10. Machine and (or) equipment or each of their component parts must be packaged so that they can be stored safely and without damages and have adequate stability.

11. Where the weight, size or shape of a machine and (or) equipment or their various component parts prevent them from being moved by hand, a machine and (or) equipment or each component part must;

be fitted with attachments for lifting gear

be shaped in such a way that standard lifting gear can easily be attached.

12. Where a machine and (or) equipment or one of their component parts is to be moved by hand, it must be moved easily or equipped for picking up.

Special arrangements must be made for the safe places for handling of tools, spare parts and units, necessary at use.

13. Control systems of a machine and (or) equipment must ensure safety of their use at all foreseeable operation regimes and external factors foreseeable by use conditions.

Control systems must prevent dangerous situations at errors in logic and malfunction in sequence of operations by personnel.

Depending on complexity of control and operating mode of a machine and (or) equipment control systems must include means of automatic normalization of operating modes or automatic stop if operating mode infringement can be the reason of creation of dangerous situation.

14. Control systems of a machine and (or) equipment must include safety alarm system and other devices to warn about malfunctioning of a machine and (or) equipment resulting in dangerous situations.

The warning devices of malfunctioning of a machine and (or) equipment must ensure, faultless, authentic and fast perception of the information by the personnel.

15. Controls devices of a machine and (or) equipment must be:

easily accessible and identifiable and also appropriately marked with inscriptions, symbols or marked otherwise;

designed and positioned so that to exclude their involuntary movement and provide their reliable and unambiguous manipulations,

located taking into account the requested efforts for movement, sequence and frequency of use, and also function significance;

constructed so that their form, sizes and contact surfaces of the user correspond to a capture way (fingers, hand) or pressing (hand finger, palm, foot);

located outside the danger zones, except for certain controls where necessary, and additional safety measures must be taken.

16. Where a control is designed to perform several different actions, this action must be clearly displayed and subject to confirmation where necessary.

17. It must be possible to start a machine and (or) equipment and restart after a stoppage (whatever the cause) by actuation of a control provided for the purpose. This requirement doesn't apply to the restarting of industrial equipment, working in an automatic mode, if the restarting after a stoppage is provided by this mode.

Where a machine and (or) equipment have several starting controls to start up of the system or its separate parts, and sequence of their use can lead to dangerous situations, control must provide the devices excluding violation of the change in operating mode.

18. Each machine and (or) equipment must be fitted with a control whereby it can be brought safely to a complete stop. Machine and (or) equipment stop control must have priority over the start controls.

Once a machine and (or) equipment is stopped, the energy supply to the actuators concerned must be cut off except for the cases when cutting off may result in dangerous situation. Machine and (or) equipment control systems must be fitted (except for the portable hand-held machine) with a stop control to emergency braking and emergency stop device (disengaging), if application of these systems can reduce or prevent danger.

19. The emergency stop control must:

- have clearly identifiable, and quickly accessible controls,
- stop machine and (or) equipment as quickly as possible, without creating additional hazards;
- once active operation stopped, this command must be sustained until the user return it to the starting mode;
- return to the starting position without the restarting a machine and (or) equipment;
- be of red color to differ by shape and sizes from others controls.

20. Machine and (or) equipment control system must exclude any risk resulting of their joint functioning, and also in case of failure of any part.

When necessary a machine and (or) equipment control system must enable the personnel to block the system start and also stop it.

21. Control panel of a machine and (or) equipment must enable personnel to supervise absence of the personnel or other persons in dangerous zones or control must exclude functioning of a machine and (or) equipment in the presence of the personnel or other persons in dangerous zone. Each start must be preceded by a warning signal, the duration of which allow the persons who are present in dangerous zones to leave it or prevent start of the system.

Machine and (or) equipment control panel system must be equipped with means of display of information about failures of any part of the system, and also the emergency stops (disengaging) of the system and (or) its separate parts.

22. In case of availability of a selector of operating modes of a machine and (or) equipment each position must correspond to a common operating mode, which can be locked in each position.

23. Whenever in certain operating modes of a machine and (or) equipment a higher protection level for personnel is required, the operating mode selector in corresponding positions must:

disable the automatic control mode,

permit movements only by controls requiring sustained action,

prevent any movement liable to pose a danger for personnel;

prevent operation of parts of machine and (or) equipment not participating in the selected operating mode;

reduce speed of movement of parts of machine and (or) equipment participating in the selected operating mode.

24. Selected control mode has priority over other operating modes, except for emergency stop.

25. Full or partial failure of power supply and its subsequent re-establishment, as well as interruption of control chain of power supply must not lead to dangerous situations, in particular:

a machine and (or) equipment must not start unexpectedly;

a machine and (or) equipment must not be prevented from stopping if the command has already been given,

no moving parts of a machine and (or) equipment and parts, semi-finished products, tools installed on them must fall or be ejected;

protection devices of a machine and (or) equipment must remain fully effective.

26. Failure (malfunction or damage) of the control circuit of a machine and (or) equipment must not lead to dangerous situations, in particular:

a machine and (or) equipment must not start unexpectedly at power re-establishment;

a machine and (or) equipment must not be prevented from stopping if the command has already been given,

no moving parts of a machine and (or) equipment and fixed units, semi-products and tools must fall or be ejected

protection devices of a machine and (or) equipment must remain fully effective.

27. Machine and (or) equipment must be stable under the foreseen operating conditions for use without risk of overturning, falling or unexpected movement.

In operation manuals (instructions) appropriate means for anchorage must be indicated.

28. Parts of a machine and (or) equipment and their linkages must withstand the stresses, to which they are subject when used. The durability of the materials used must be adequate for the nature of the foreseeable use, in particular as regards the phenomena of fatigue, ageing, corrosion and wear.

29. In operation manuals (instructions) of a machine and (or) equipment the type and frequency of inspection and maintenance for safety reasons must be specified. Where appropriate, the parts subject to wear and the criteria for replacement must be indicated.

30. Where a risk of rupture or disintegration of the parts or units of a machine and (or) equipment remains despite the measures taken, the protection must ensure that in case of rupture their fragments will be contained.

31. Pipes must be able to withstand the foreseen stresses and must be firmly attached and protected against external stresses.

The precautions must be taken to ensure that no risk is posed by a rupture, sudden movement, high-pressure jets.

32. Precautions must be taken to prevent risks from falling or ejected objects of a machine and (or) equipment), their fragments, waste.

33. Accessible parts of machine and (or) equipment must have no sharp edges, no sharp angles, and no rough surfaces likely to cause injury and not related to the purposes of machine (or) equipment functions.

34. Where a machine and (or) equipment are intended to carry out several different operations with the manual removal of the piece between each operation it must be possible for each element to be used separately without the other elements constituting a danger or risk for the exposed person.

35. When a machine and (or) equipment are intended for operations under different conditions of use and speeds, it must be possible to ensure safe and reliable selection and adjustment of these conditions.

36. Moving parts of a machine and (or) equipment must be located in such a way as to avoid traumas or where hazards persist to use guards or protective devices as to prevent all risk of contact with machine and (or) equipment which could lead to accidents.

37. All necessary steps must be taken to prevent accidental blockage of moving parts. In cases where, despite the precautions taken, a blockage is likely to occur, specific protection devices must be provided to enable a machine and (or) equipment to be safely unblocked. The sequence and unblocking methods must be indicated in operation manuals (instructions), and machine and (or) equipment must be marked accordingly.

38. Guards or protective devices used to protection against the risks related to moving parts of machine and (or) equipment, must be selected on the basis of the type of risk analysis.

39. Guards and protective devices must be:

stable;

safe;

remote from a dangerous zone;

do not hinder control in dangerous zones;

ensure adjustment and (or) replacement of the tools, and maintenance of machine and (or) equipment.

40. Fixed guards must be securely held in place so that access to the protected area must be possible only with tools.

41. Movable guards:

as far as possible remain fixed to a machine and (or) equipment when open;
be associated with a locking device to prevent moving parts operation as long as these parts are no longer closed.

42. Movable guards and protective devices must be are designed (constructed) and incorporated into the control system of machine and (or) equipment so that
moving parts cannot start up while they are within the operator's reach;
exposed person cannot reach moving parts once they have started up,
they can be adjusted only by means of tools;
absence or failure of one of their components prevents starting or stops the moving parts;
protection against any risk of ejection is proved by means of an appropriate barrier.

43. Adjustable guard restricting access to those areas of the moving parts of machine and (or) equipment necessary for the work must:
be adjustable manually or automatically (according to the type of work involved);
be readily adjustable with tools,
reduce as far as possible the risk of ejection.

44. Protection devices must incorporate control systems of machines and (or) equipment so that:
moving parts cannot start up while they are within the operator's reach,
exposed person cannot reach moving parts of a machine and (or) equipment once they have started up,
absence or failure of one of their components prevents starting or stops the moving parts.

45. Protection devices are mounting (dismantled) only with the use of tools.

46. Where a machine and (or) equipment have an electricity supply, they must be designed (constructed), manufactured and equipped so that a hazard of electric shock can be prevented.

47. In a case if in a machine and (or) equipment it is used not electric energy (hydraulic, pneumatic, thermal energy), they are designed and constructed so that to avoid any danger related to these types of energy.

48. Errors at fitting a machine and (or) equipment, which could be a source of risk must be excluded. If it is impossible, warnings must be affixed directly on a machine and (or) equipment. The information on possible errors at refitting must be given in operation manuals (instructions).

49. Danger caused by mixture of fluids and gases and (or) wrong connection of electric conductors must be excluded to assemblage. If it is impossible, the information on it is underlined on tubes, cables and (or) on connecting blocks.

50. Measures must be taken to eliminate any risk caused by contact or proximity to parts of machine and (or) equipment or materials at high or low temperatures.

The risk of hot or very cold material being ejected from a machine and (or) equipment must be assessed. Where this risk exists, the measures must be taken to reduce it.

Protection against traumas must be provided at contact or proximity to parts of a machine and (or) equipment or using substances with high or low temperature.

Metal surface of hand tools, metal handles and catches of machines and (or) equipment must be coated with heat-insulating material. The temperature of metal surfaces of the equipment must be within admissible limits at a possible (unintended) contact with the exposed skin.

51. Machine and (or) equipment are designed (constructed) to avoid all risk of fire or overheating posed by a machine (or) equipment, or by gases, liquids, dust, vapors or other substances produced or used by machine and (or) equipment.

Machine and (or) equipment are designed (constructed) to avoid any risk of explosion posed by a machine and (or) equipment, gases, liquids, dust, vapors or other substances produced or used by a machine and (or) equipment. To this end the following steps must be taken:

- avoid a dangerous concentration of explosive substances;
- conduct the continuous automatic control over concentration of explosive substances;
- prevent combustion of a potentially explosive atmosphere;
- minimize consequences of any explosion.

52. When designing (constructing) a machine and (or) equipment the levels of noise, infrasound, air and contact ultrasound must be defined.

In the design of machine and (or) equipment an admissible level of the produced noise on personnel must be defined.

53. In operation manuals (instructions) noise level and parameters of uncertainty of a machine (or) equipment must be specified.

54. When designed (constructed) a machine and (or) equipment .limit levels of vibration affecting personnel must be foreseen.

In the design of a machine and (or) equipment admissible risk must be provided for personnel resulting from vibration produced by machines and (or equipment).

55. For hand machines and hand-operated machines, and also for machines with operator inside, in operation manuals (instructions) must be specified mean-square value of the corrected vibration acceleration, affecting personnel, and parameters of uncertainty of this value.

56. Machine and (or) equipment are designed (constructed) and manufactured so that the ionizing radiation must not cause danger.

57. When using laser equipment:

- accidental radiation must be prevented;
- protection must be ensured from effective radiation produced by reflection or diffusion and secondary radiation;
- absence of danger caused by optical equipment for the observation or adjustment of laser equipment must be ensured.

58. When designed (constructed) a machine and (or) equipment the measures on personnel protection must be taken to avoid adverse influence of non-ionizing, static electric, constant magnetic fields, electromagnetic fields of industrial frequency, electromagnetic radiations of radio-frequency and optical ranges.

59. Gases, liquids, dust, vapors and other waste materials produced by a machine and (or) equipment in operation must not be a source of danger.

In case of such danger a machine and (or) equipment must be equipped with devices for containment and (or) evacuation of the said substances, situated as close as possible to the source of emission for continuous automatic control of emissions.

60. Machine and (or) equipment must be equipped with a means of preventing personnel from being closed within a machine and (or) equipment and if it is impossible – they must be equipped with a means of summoning help.

61. Parts of a machine and (or) equipment where persons are liable to stand must be designed to prevent persons from sliding, tripping or falling on or off these parts.

62. Places of maintenance of a machine and (or) equipment must be located outside dangerous zones.

It must be possible to maintain a machine and (or) equipment while they are at a standstill. If for technical reasons such conditions can't be observed, it is necessary that these operations must be possible without risk.

63. Machine and (or) equipment must be have a possibility for mounting diagnostic fault-finding equipment.

Machine and (or) equipment components, which have to be changed frequently, in particular for a change in use, or where they are liable to wear or ageing which may result in an accident), must be capable of being removed and replaced easily and in safety. Access to the components must enable these tasks to be carried out with necessary tools and measuring instruments in accordance with an operation manuals (instructions).

64. For safe access to all areas of technical maintenance a provision must be taken for means of access (stairs, ladders, catwalks etc.)

65. Machine and (or) equipment must be fitted with means to isolate them from energy sources, which are to be clearly identified by color and size. They must be capable of being locked if reconnection could endanger the exposed persons.

The isolator must be capable of being locked also where an operator is unable, from any of the points to which he has access, to check that the energy is still cut off.

After the energy is cut off, it must be possible to dissipate normally any energy remaining or stored in the circuits of machine and (or) equipment. If necessary certain circuits may remain connected to their energy sources in order to protect information, emergency lighting. In this case, the measures must be taken to ensure the operator's safety.

66. Machine and (or) equipment are designed (constructed) so that the necessity of intervention of personnel must be limited, if not foreseen by operation manuals (instructions).

If intervention of personnel cannot be avoided, it must be carried out in safety.

67. Provision is foreseen to clean internal parts of a machine and (or) equipment, containing dangerous substances without entering them, and any unblocking must be possible from outside. Safe cleaning must be ensured.

68. Information necessary to control a machine and (or) equipment must be unambiguous and easily perceived by personnel. This information must not be redundant in order not to strain personnel in operation.

69. If personnel is in danger because of failures in operation of machine and (or) equipment, machine and (or) equipment must be equipped with the warning devices giving a preventive acoustic or light signal. The signals of warning devices of a machine and (or) equipment must be unambiguous and easily perceived. The personnel must have facilities to check the operation of such warning devices at all times.

70. Where risks remain despite all adopted measures, a machine and (or) equipment must be equipped with preventive warnings (signs), which must be easily understood and made in Russian and in the official language of a Member State of the Customs Union in case of relevant requirements in legislation(s) of a Members State (s) of the Customs Union..

ADDITIONAL SAFETY REQUIREMENTS

FOR PARTICULAR TYPES OF MACHINES AND EQUIPMENT

AGRICULTURAL AND OTHER SELF-PROPELLED AND MOBILE MACHINES

1. Machines with risks related to their movement must additionally comply with safety requirements of this Annex.

2. Visibility from the driving position must be such that the driver can in complete safety for himself and the exposed persons, operate the machinery and its tools in their intended conditions of use. Where necessary, appropriate devices must be provided to remedy hazards due to inadequate direct vision.

3. The driver must be able to actuate all control devices required to operate the machinery from the driving position, except for functions which can be safely activated only by using control devices located away from the driving position.

4. In the case of wheeled machinery, the steering system must be designed and constructed to reduce the force of sudden movements of the steering wheel or steering lever caused by shocks to the guide wheels.

5. Any control that locks the differential must be so designed and arranged that it allows the differential to be unlocked when the machinery is moving

Where, for operating purposes, machinery must be fitted with devices which exceed its normal clearance zone (e.g. stabilizers, jib, etc.), the driver must be provided with the means of checking easily, before moving the machinery, that such devices are in a particular position which allows safe movement.

6. It must not be possible for movement of a machine to occur while the engine is being started.

Machines must meet the requirements for slowing down, stopping, braking and immobilization so as to ensure safety under all the operating, loading, speed, ground and gradient conditions and correspond to road traffic regulations.

7. The driver must be able to slow down and stop self-propelled machinery by means of a main device. Where safety so requires, in the event of a failure of the main device, or in the absence of the energy supply to actuate the main device, an emergency device with fully independent and easily accessible controls must be provided for slowing down and stopping.

Where safety so requires, a parking device must be provided to render stationary machinery immobile.

8. Where necessary to have remote-controlled system for a machine and a complex of machines, each control unit must be identified with a machine for which it is intended.

Remote-controlled system must be designed and constructed so that it can control a relevant machine and (or) certain operations.

Remote-controlled machine must be designed and constructed to react to signals of a particular control unit.

9. Movement of pedestrian-controlled self-propelled machinery must be possible only through sustained action on the relevant control by the driver. In particular, it must not be possible for movement to occur while the engine is being started.

10. The control systems for pedestrian-controlled machinery must be designed to minimize the hazards arising from inadvertent movement of the machine towards the driver

The speed of normal travel of the machine must be compatible with the pace of a driver on foot.

In the case of machinery on which a rotary tool may be fitted, it must not be possible to actuate that tool when the reversing control is engaged, except where movement of the machinery results from movement of the tool. In the latter case, the reversing speed must be such that it does not endanger the driver.

A failure in the power supply to the power-assisted steering, where fitted, must not prevent machinery from being steered during the time required to stop it.

11. Machine must be so designed, constructed and where appropriate placed on its mobile support so as to ensure that when moved the uncontrolled oscillations of its centre of gravity do not affect its stability or exert excessive strain on its structure.

Self-propelled machine must be designed and constructed so that under the intended operation conditions it should preserve its stability.

12. Where under the intended conditions, there is a risk due to rolling over of a self-propelled machine; it should be fitted with a falling-object protective structure. This structure must be such that in case of rolling over it affords the ride-on driver an adequate deflection-limiting volume.

Where machinery is fitted with provision for a rollover protection structure, the seat must be equipped with a safety belt or equivalent device which keeps the driver in his seat without restricting any movements necessary for driving.

13. Where, under the intended conditions there is a risk due to falling of a self-propelled machine, it should be fitted with a falling-object protective structure.

This structure must be such that in the case of a machine, it guarantees the ride-on operators an adequate deflection-limiting volume.

14. All machines used to tow or to be towed must be fitted with towing or coupling devices designed, constructed and arranged to ensure easy and safe connection and disconnection, and to prevent accidental disconnection during use.

15. In so far as the towbar load requires, such machines must be equipped with a support with a bearing surface suited to the load and the ground.

16. Transmission shafts with universal joints linking self-propelled machines (or tractors) to the first fixed bearing of recipient machinery must be guarded on the self-propelled machinery side and the recipient machinery side over the whole length of the shaft and associated universal joints

On the side of a self-propelled machine (or a tractor), the power take-off to which the transmission shaft is attached must be guarded either by a screen fixed to a self-propelled machine (or a tractor) or by any other device offering equivalent protection.

On the towed machinery side, the input shaft must be enclosed in a protective casing fixed to the machinery

Torque limiters or freewheels may be fitted to universal joint transmissions only on the side adjoining the driven machine. The universal-joint transmission shaft must be marked accordingly.

17. All towed machinery whose operation requires a transmission shaft to connect it to self-propelled machinery (tractors) must have a system for attaching the transmission shaft so that when the machinery is uncoupled the transmission shaft and its guard are not damaged by contact with the ground or part of the machinery.

The outside parts of the guard must be so designed, constructed and arranged that they cannot turn with the transmission shaft. The guard must cover the transmission shaft to the ends of the inner jaws in the case of simple universal joints and at least to the centre of the outer joint or joints in the case of 'wide-angle' universal joints.

Where means of access to working places are positioned near to the universal joint transmission shaft, they must be designed and constructed to exclude a possibility of using shaft guards as steps unless it is provided by construction.

18. The battery housing must be constructed and located and the battery installed so as to avoid as far as possible the chance of electrolyte being ejected on to the operator in the event of rollover and/or to avoid the accumulation of vapors in places occupied by operators.

Machine must be so designed and constructed that the battery can be disconnected with the aid of an easily accessible device (switch) provided for that purpose.

19. Depending on the anticipated hazards when in use, a machine must be fitted with easily accessible fire extinguishers and (or) built-in extinguisher systems.

20. Operator must be protected with exposure of hazardous substances where the main function of a machine is the spraying of products.

21. Operator's places must have means of signaling from towing to towed machine (where necessary).

22. The work place of operator of agricultural machines being outside the cabin during operation must be protected from throwing by earth, technological materials and mud.

23. Folding elements designed to reduce transport width and (or) height must be equipped with mechanical or other means to keep them in a run-in position.

24. Self-propelled machines and power converting machines designed to operate in mines must be equipped with detectors of maximum permissible bank.

25. Safety requirements for mounted, semi-mounted, towed, semi-towed and mounted agricultural machines must be evaluated at testing of machine-tractor unit comprising mounted, semi-mounted, towed, semi-towed or mounted machine and power converting machines (tractor).

26. If self-propelled machines and power converting machines are designed for use in hazardous environments, or machines and power converting machines are the cause of generating hazardous environment, the appropriate devices must be provided to ensure normal operation of operator and his protection against foreseeable hazards.

27. The cabin of workplace of operator must allow operator to leave quickly a machine and have at least one emergency exit.

28. Machines united with power converting machines closing in run-in-position lightning and blinking devices of power converting machines as well as self-propelled machines must be equipped with their own external light devices.

LOAD-LIFTING MACHINES

1. Load-lifting machines must be designed and constructed that they maintain, both in service and out of service, including all other stages of life cycle (transportation, assembly, dismantling, etc.) geometric shapes, strength, rigidity, stability, fatigue, (the last only for certain types of jibs).

Strength stiffness, stability, fatigue and balance of the estimated elements of metal structures, as well as relevant safety indicators of mechanisms of hoisting machines, taking into account the classification group, must be confirmed by calculations.

2. Machinery must be provided with special devices which act on the guide rails or tracks to prevent derailment and unauthorized movement because of wind loadings. However, if derailment occurs despite such devices, or if there is a risk of failure of a rail, for example, caused by eventual seismic impact or breakage of rails, devices must be provided which prevent possible equipment falling.

3. Load lifting machines must be designed and constructed taking into account operation conditions, time and working regime of machines. Load-lifting machines designed to service intensive technological processes must be equipped with recorders of use.

All free standing jib cranes must be equipped with recorders of use (load carrying capacity limiter).

The materials used must be chosen on the basis of the foreseen working environments (under working and non-working conditions) with special reference to temperature, aggressive media, fire and-explosion media etc. The quality of materials must be confirmed by a certificate of the manufacturer.

4. Block and drums for steel ropes must have a diameter not less than defined by a group classification of a mechanism in which they are installed. Stream of a block and cutting grooves on a drum must correspond to the diameter of the installed steel rope.

The estimated effort for a steel rope selection must be determined by the construction of a mechanism, taking into account the multiplicity of pulley.

Minimum use coefficient (the safety factor) of a steel rope must not be lower than the determined by the group classification of a mechanism in which a rope is installed. Minimum use coefficient of a steel rope (the safety factor) for each individual legged sling must not be less than 6, provided that the maximum angle between the multilegged slings is no more than 90° . Design load for each of the multilegged slings must be subject to the condition that that the cargo is held by three or fewer.

Steel ropes designed for lifting or holding loads (except ropes for rope-ways and circular slings) must not comprise any splices or loops other than at their ends;

Quality of rope ends and methods of fixing steel ropes are chosen so as to guarantee an adequate level of safety and loading capacity of machines as a whole.

5. The size of the star wheel (sprocket) must be chosen taking into account the group classification of mechanisms and a chain step.

The estimated effort for a chain selection must be determined by the construction of a mechanism, taking into account the multiplicity of pulley. Minimum use coefficient (the safety factor) of chain must not be lower than the determined by group classification of a machine in which a chain is installed.

Method of attachment and fusion of the ring chain must be selected to provide an adequate level of safety of mechanisms and lifting machines as a whole.

Minimum use coefficient (the safety factor) for each individual legged sling must not be less than 4, provided that the maximum angle between the multilegged slings is no more than 90° . Design load for each of the multilegged slings must be subject to the condition that that the cargo is held by three or fewer.

When using textile ropes and webbings in construction the minimal use factor of textile ropes and webbings for each string (the safety factor) must be equal to 7 provided the maximum angle between multilegged slings is be not more than 90° .

Splicing of textile ropes and webbings must not lead to reduction of the given minimal coefficient for use of each separate multilegged sling.

6. Devices for controlling movements must act in such a way that load-lifting machines on which they are installed are kept safe.

Load-lifting machines must be designed and constructed or fitted with special devices in such a way that the amplitude of movement of its components is kept within the specified limits. The operation of such devices must, where appropriate, be preceded by a warning.

Where several fixed or rail-mounted machines can be maneuvered simultaneously in the same place, with risks of collision, such machinery must be designed and constructed in such a way as to make it possible to fit systems enabling these risks to be avoided.

Load-lifting machines must be designed and constructed in such a way that the loads cannot creep dangerously or fall freely and unexpectedly, even in the event of partial or total failure of the power supply or when the operator stops operating the machine.

It must not be possible, under normal operating conditions, to lower the load solely by friction brake, except in the case of machinery whose function requires it to operate in that way.

Holding devices must be designed and constructed in such a way that inadvertent dropping of the loads is avoided.

7. The operating position of machinery must be located in such a way as to ensure the widest possible view of trajectories of the moving parts, in order to avoid possible collisions with persons, equipment or other machines which might be maneuvering at the same time and liable to constitute a hazard.

Load-lifting machines with guided loads must be designed and constructed in such a way as to prevent persons from being injured by movement of the load, the carrier or the counterweights, if any. To meet this requirement the access to the area of cargo travel under normal operating conditions should be excluded.

If during inspection or maintenance, there is a risk of crushing between a fixed element and transport platform of human body parts being below or above this platform, it is necessary to provide sufficient space for shelter or installation of mechanical devices blocking the process of moving the transport platform.

8. The movement of the carrier of machinery serving the fixed landings must be rigidly guided to and at the landings. Scissor systems are also regarded as rigid guidance

Where persons have access to the carrier, the machinery must be designed and constructed in such a way as to ensure that the carrier remains stationary during access, in particular while it is being loaded or unloaded.

The machinery must be designed and constructed in such a way as to ensure that the difference in level between the carrier and the landing being served does not create a risk of tripping or falling.

9. Where there is a risk that loads may fall from the carrier, load-lifting machines must be designed and constructed to exclude a possibility of such risk.

10. Risks due to contact of persons at landings (loading/unloading) with the moving carrier or other moving parts must be prevented.

Where there is a risk due to persons falling into the travel zone when the carrier is not present at the landings, guards must be fitted in order to prevent this risk. Such guards must not open in the direction of the travel zone. They must be fitted with an interlocking device controlled by the position of the carrier that prevents hazardous movements of the carrier until the guards are closed and locked and hazardous opening of a guard until the carrier has stopped at the corresponding (loading/unloading) landing.

11. To confirm load-lifting machines capacity for work they have to undergo periodically the static and dynamic tests with the coefficient equal to 1,25 (static tests) and 1,1 (dynamic tests). Methods of loading tests must be laid down in the Manuals on maintenance of load-lifting machines.

Newly-constructed load-lifting machines (jib cranes) must be additionally tested for general stability against rollover. Methods of tests must be laid down in the Manuals on maintenance of load-lifting machines.

12. Hold-to-run control devices must be used to control the movements of the machinery or its equipment. However, for partial or complete movements in which there is no risk of the load or the machinery colliding, the said devices may be replaced by control devices authorizing automatic stops at pre-selected positions without the operator holding a hold-to-run control device.

Rope carriers, tractors or tractor carriers must be held by counterweights or by a device allowing permanent control of the tension.

13. Each length of lifting chain, rope or webbing not forming part of an assembly must bear a mark or, where this is not possible, a plate or irremovable ring bearing the name and address of the manufacturer.

Chains, steel and textile ropes and webbings must have a certificate showing the following information:

- name and address of the manufacturer;
- description of the chain, steel and textile rope or tape rope which includes nominal size, construction, material from which it is made;
- test method used;
- minimal breaking (rupturing) load.

The form of this certificate is to be approved by the Commission of the Customs union.

14. All lifting accessories must show the identification of the material (where this information is needed for safe use) and the maximum working load.

In the case of lifting accessories on which marking is physically impossible, the above information must be displayed on a plate securely affixed to the accessory. The particulars must be legible and located in a place where they are not liable to disappear as a result of wear or jeopardize the strength of the accessory.

15. The maximum working load must be boldly marked on load-lifting machines and for jib cranes additionally on a plate with loading parameters, which must be affixed to the accessories.

Load-lifting machines intended for lifting goods only, equipped with a carrier which allows access to persons, must bear a clear and indelible warning prohibiting the lifting of persons. This warning must be visible at each place where access is possible to carriers and remained during the whole life cycle of machines.

16. Mechanisms for lifting machinery must be equipped with brakes normally closed types (except brake rotation mechanism, which can be normally open).

The accelerator and brake controls for the movement of machinery running on rails must be manual. However, the deadman's control may be foot-operated.

Safety braking factor of a load lifting machine must be not lower than 1,5 taking into account group classification of mechanisms.

Hoist lifting equipment designed for lifting and transportation of dangerous goods must be equipped with two brakes, and the safety barking factors must be calculated based on provision of a prescribed safety.

17. Lifting bodies hoisting machines shall meet the requirements set to ensure safety and prevent spontaneous decoupling, fall or precipitation of the cargo during its lifting and transportation, including the failures of control systems.

Cargo hooks, except hooks of special design, must be installed on thrust ball bearings.

Hook mounting on a sling should be excluded from any unauthorized disconnection from suspension during operation.

Each hook hoisting machine shall be equipped with a latch that prevents the arbitrary loss of sling, ring or hook eye from the pharynx during cargo lifting and transportation.

18. Electrical and control systems for lifting equipment must comply with the prescribed safety level and meet the requirements of the group classification of the mounted mechanisms. The control system must be, as a minimum, with a zero and current protection, to exclude a possibility of unauthorized launch of drive mechanisms, as well as a possibility of electric trauma for personnel.

19. Hydraulic lifting equipment must comply with the safety requirements to exclude damage to hydraulic components in contact with elements of metal structures and spontaneous sinking of cargo (jibs) in emergency situations.

Each hydraulic circuit must be protected from over-pressure by a relief valve, adjusted to work with nominal load equal to the nameplate capacity and sealed.

20. Lifting machines must be equipped with necessary safety limiters (for example, stops of working movements, necessary locking of cabin entrance, etc.) and indicators (for example, LED indication of voltage, display of weighting devices, sound signals for start of cargo lifting and its transportation, etc.). The list and number of necessary limiters and indicators must be selected on the basis of construction, degree of responsibility and provision of necessary safety level.

21. Control cabins must be constructed and installed to make control easy and not prevent visibility for front-end tool and cargo.

Direction of handle and level travel must correspond to the direction of mechanism travel.

22. Internal dimensions of the control cabin of lifting equipment must meet the requirements for ergonomics and safety requirements, which are established for this equipment.

23. Easily accessible moving parts of the hoisting machinery shall be covered with removable solid guards, allowing inspection and maintenance arrangements.

Uninsulated live parts of electrical equipment for lifting equipment, located in places that do not exclude the possibility of touching them, must be protected.

24. Galleries, landings and stairs of the lifting machines must ensure the designed strength, and their dimensions must meet the established safety requirements.

25. Welded joints of calculated metal elements of the lifting equipment must ensure their safety.

26. Tracks (for lifting equipment, moving on the tracks) must be designed and constructed so that during operation (active and in idle states), and also other stages of the life cycle of load-lifting machines (assembly, testing, etc.) it maintains the declared strength, stiffness, stability, fatigue, wear - and corrosion resistance.

**FOODSTUFFS MACHINERY AND MACHINERY FOR COSMETICS OR
PHARMACEUTICAL PRODUCTS**

1. Materials in contact with foodstuffs or cosmetics or pharmaceutical products must fit to purpose. All surfaces and their coatings must be resistant to contacting media and provide possibility for their cleaning and disinfecting without deterioration, crevices, chips, peeling or abrasion.

2. All surfaces contacting with foodstuffs or cosmetics or pharmaceutical products must be smooth and have neither ridges nor crevices, which could harbor organic materials.

Machines must be easily cleaned and disinfected, where necessary after removing easily dismantled parts. The inside surfaces must have curves with a radius sufficient to allow thorough cleaning.

3. It must be possible for liquids, gases and aerosols deriving from foodstuffs, cosmetics or pharmaceutical products as well as from cleaning and disinfecting to be completely discharged.

4. Machines must be designed and constructed in such a way as to prevent any substances or living creatures, (for example, insects) from entering, or any organic matter from accumulating in, areas that cannot be cleaned.

5. Machines must be designed and constructed in such a way that no ancillary substances hazardous to health (for example, lubricants), can come into contact with foodstuffs, cosmetics or pharmaceutical products.

6. The instructions on maintenance must indicate recommended products and methods for cleaning, disinfecting and rinsing.

Annex N 3
to Technical Regulation
of the Customs Union
“On safety of machines and equipment”

LIST
of the objects of technical regulation, subject to conformity assurance
with the requirements of Technical Regulation of the Customs Union
"On safety of machines and equipment"
in a form of certification

1. Household wood working equipment;
2. All-terrain vehicles, snowmobiles and their trailers;
3. Garage equipment for motor vehicles and trailers;
4. Agricultural machines;
5. Small-size mechanized machines for garden and forestry, including forestry electric machines;
6. Machines for livestock, poultry farming and feed-processing;
7. Mechanized construction and assembly instruments;
8. Engineering equipment for timber logging, timber deposits and timber rafting:
 - petrol saws;
 - electric chain saws.
9. Technological equipment for commerce, catering and public kitchens.
10. Equipment for stripping and cleaning works and lining of mine workings:
 - mining combines;
 - mechanized complexes;
 - mechanised supports for shafts;
 - pneumatic instruments.
11. Sinking equipment for mines:
 - sinking combines for coal and rock;
 - metal lining for excavation.
12. Equipment for shaft running and mine transport:
 - drag mining conveyors;
 - belt mining conveyors;
 - winding machines for mines and hoists for ore mines;

13. Equipment for drilling boreholes and wells, equipment for charging and tamping blast holes:

- pneumatic hammers (drilling hammers drill);
- pneumatic hammers;
- drilling machines in mining industry;
- drilling installations;

14. Equipment for ventilation and dust retaining:

- mining fans;
- dust retaining and dust extraction devices;
- oxygen compressors;

15. Load lifting machines, load lifting cranes

List

**of the objects of technical regulation, subject to conformity assurance
with the requirements of Technical Regulation of the Customs Union
"On safety of machines and equipment"
in a form of declaration of conformity**

1. Turbines and gas-turbine installations;
2. Draught equipment;
3. Crushers;
4. Diesel-generators;
5. Devices for lifting operations;
6. Conveyors;
7. Rope and chain pulley lifts;
8. Industrial floor trackless transport;
9. Chemical oil and gas processing equipment;
10. Polymer processing equipment;
11. Pumping equipment (pumps, pumping units and installations);
12. Cryogenic equipment, compressors, refrigeration, gas-treatment and autogene equipment:
 - air and rare gases installations;
 - equipment for preparation and purification of gases and liquids, heat – and cryogenic mass transfer systems and installations;
 - compressors (air and gas);
 - refrigeration installations.
13. Equipment for flame treatment of metals and plating products;
14. Gas-treatment and dust-retaining equipment;
15. Pulp-and paper equipment;
16. Paper-making equipment;
17. Oilfield equipment, drilling geological equipment;
18. Manufacturing equipment and equipment for coating engineering products;
19. Equipment for liquid ammonia;
20. Equipment for preparation and purification of drinking water;
21. Metal-working machines;
22. Press-forging machines;
23. Wood-working equipment (except household wood-working machines);

24. Manufacturing equipment for foundry;
25. Equipment for welding and gas thermal spraying;
26. Industrial tractors;
27. Forklifts;
28. Bicycles (except for children);
29. Machines for excavation, land reclamation, development and maintenance of quarries;
30. Road making machines and equipment for mortar preparation;
31. Construction equipment and machines;
32. Equipment for construction materials production;
33. Forestry machinery, forestry timber deposits and timber rafting (except petrol chains and electric saws);
34. Engineering equipment for peat industry;
35. Industrial laundry equipment;
36. Equipment for chemical cleaning and dyeing of cloths and household articles;
37. Machines and equipment for municipal utilities;
38. Industrial fans;
39. Industrial air conditioners;
40. Air heaters and air coolers;
41. Manufacturing equipment for light industry;
42. Manufacturing equipment for textile industry;
43. Engineering equipment for production of chemical fibres, glass and asbestos fibres;
44. Processing equipment for food, meat, dairy and fish industry
45. Manufacturing equipment for flour-and-cereal industry, feed mill and grain-elevator industry;
46. Manufacturing equipment for retail, catering and public kitchens;
47. Printing equipment;
48. Manufacturing equipment for glass, porcelain, earthenware and cable industry;
49. Heating boilers operating on liquid and solid fuel;
50. Fluid gas and combined burners (except for blocks), integrated in equipment to be used in technological processes at industrial enterprises;
51. Water heaters and heating units operating on liquid and solid fuels;
52. Cutters:
 - multi-faceted carbide cutters;
 - high speed steel cut-off cutters and metal slitting saws;
 - carbide cutters.

53. Incisors:

- cutters with carbide plates;
- cutters with multi-faceted carbide plates.

54. Circular saws with carbide inserts for wood processing;

55. Bench and mounting tool with insulating handles for working in electrical units with voltage up to 1000 V;

56. Shell-milling cutters:

- wood processing relieved milling cutter;
- wood processing mills with blades of steel or tungsten carbide;
- cylindrical interlocking side milling cutters.

57. Tools for natural and synthetic diamonds:

- diamond grinding wheels;
- diamond cutting wheels.

58. Tools of super hard synthetic materials based on boron nitride (CBN tools);

59. Abrasive tools, abrasive materials:

- grinding wheels, including hand tools;
- cut-off wheels;

60. Abrasive tools, abrasive materials:

- abrasive disks including for hand machines
- cutting wheels;
- polishing wheels;
- petalled grinding wheels;
- grinding endless belts;
- fibre grinding wheels.