

Technical Regulations TR CU 002/2011

TECHNICAL REGULATION of the Customs Union "On Safety of High-Speed Railway Transport" (TR CU 002/2011)

Footnote. The Technical Regulation as amended by Decision of the Council of the Eurasian Economic Commission dated 14.09.2021 No. 90 (enters into force upon expiry of 180 calendar days from the date of its official publication).

I. Scope of Application

1. This Technical Regulation applies to high-speed railway transport.

The objects of technical regulation of this Technical Regulation are:

newly developed (modernized) and manufactured high-speed railway rolling stock with a design speed of more than 200 km/h and its components, placed on the market in the customs territory of the Eurasian Economic Union (hereinafter referred to as the Union) for use on public railway tracks with a track gauge of 1 520 mm;

high-speed railway transport infrastructure facilities, which include:

subsystems of high-speed railway transport infrastructure (including railway track, railway power supply, railway automation and remote control, railway telecommunications, as well as station buildings, structures and facilities);

components of subsystems of high-speed railway transport infrastructure and elements of these components.

The requirements of this Technical Regulation apply to the objects of technical regulation according to the list in Annex No. 1.

2. This Technical Regulation establishes requirements, mandatory for application and compliance in the customs territory of the Union, for high-speed railway rolling stock and its components and for high-speed railway transport infrastructure facilities whose construction has been completed, which apply to their design (including engineering surveys), production, construction, installation, adjustment and operation with regard to acceptance and commissioning. It also establishes rules for product identification, marking requirements and the rules for applying the marking, and the forms, schemes and procedures of conformity assessment.

Requirements for the operation of high-speed railway transport with regard to ensuring traffic safety are established by the railway transport legislation of the member states of the Union (hereinafter referred to as the member states).

3. This Technical Regulation has been developed to protect the life and health of humans, animals and plants and to protect property, and to prevent actions that mislead consumers (users) of high-speed railway transport.

II. Basic Concepts

4. For the purposes of applying this Technical Regulation, the concepts established by the Protocol on Technical Regulation within the Eurasian Economic Union (Annex No. 9 to the Treaty on the Eurasian Economic Union of 29 May 2014) and by the standard conformity assessment schemes approved by Decision of the Council of the Eurasian Economic Commission No. 44 of 18 April 2018 (hereinafter – the standard schemes) are used, as well as the following concepts:

"automated system for the operational control of technological processes related to ensuring traffic safety and information security" – a set of hardware and software designed to create and maintain, in real time, an information model of the transportation process for the purpose of operational regulation and control of train traffic;

"automatic cab signalling" – a set of devices for transmitting to the driver's cab the indications of the wayside signals that the high-speed railway rolling stock is approaching;

"automatic brake" – a device that ensures the automatic stopping of high-speed railway rolling stock in the event of disconnection or rupture of the air line and (or) when the emergency brake valve (emergency stop valve) is opened;

"similar products", "similar product sample" – an item (sample) of the same type as the item (sample) under consideration, having identical technical characteristics and being the closest to it in design and manufacturing technology;

"safety of high-speed railway transport" – the state of high-speed railway transport in which there is no unacceptable risk associated with causing harm to the life or health of citizens, to the property of natural or legal persons, to state or municipal property, or to the environment and the life or health of animals and plants;

"radiation safety" – safety of high-speed railway transport in which there is no possibility of harmful effects of ionizing, optical and other radiation on humans and environmental objects;

"biological safety" – safety of high-speed railway transport in which there is no possibility of a hazardous biological effect occurring;

"explosion safety" – safety of high-speed railway transport in which there is no possibility of an explosion of an explosive atmosphere occurring or of

exposure to the hazardous and harmful factors of an explosion;

"high-speed railway rolling stock" – railway rolling stock consisting of powered and non-powered cars and intended for the carriage of passengers and (or) luggage, as well as postal items, at a speed of more than 200 km/h;

"high-speed railway rolling stock gauge" – the cross-sectional outline, perpendicular to the track axis, within which high-speed railway rolling stock standing on straight level track (in the most unfavourable position in the track and in the absence of lateral tilting on the springs and of dynamic oscillations) must fit, both in the empty and in the loaded state, including rolling stock with the maximum permissible wear;

"structure gauge" – the limiting cross-sectional outline, perpendicular to the track axis, into which, apart from railway rolling stock, no parts of structures and devices, nor materials, spare parts and equipment lying near the track, may intrude, with the exception of parts of devices intended for direct interaction with railway rolling stock (contact wires with fastening parts, spouts of water cranes when taking on water, etc.), provided that the position of these devices within the gauge space is linked to the corresponding parts of the railway rolling stock and that they cannot come into contact with other parts of the railway rolling stock;

"hydrometeorological safety" – safety of high-speed railway transport in which there is no unacceptable risk from the impact of hazardous natural phenomena and climate change on high-speed railway transport;

"acceptable risk" – the value of the risk associated with the use of the objects of technical regulation of this Technical Regulation, determined on the basis of the technical and economic capabilities of the manufacturer and corresponding to the level of safety that must be ensured at all stages of the life cycle of the objects of technical regulation of this Technical Regulation;

"units of high-speed railway rolling stock" – the powered and non-powered cars of which high-speed railway rolling stock is formed;

"railway automation and remote control" – a subsystem of the high-speed railway transport infrastructure comprising a set of technical structures and signalling, interlocking and block devices that ensure control of the movement of high-speed railway rolling stock on running lines and at stations, as well as of shunting operations;

"railway station" – a point that divides a railway line into running lines or block sections, ensures the functioning of the high-speed railway transport infrastructure, and has a track layout allowing operations for the reception, departure and overtaking of trains, passenger services, and the acceptance and delivery of freight, luggage and cargo-luggage, and, where developed track facilities are used, allowing shunting operations for the breaking-up and making-up of trains and technical operations with trains;

"railway telecommunications" – a subsystem of the high-speed railway transport infrastructure comprising a set of technical structures and devices that ensure the generation, reception, processing, storage, transmission and delivery of telecommunication messages in the organization and performance of technological processes;

"railway power supply facilities" – a subsystem of the high-speed railway transport infrastructure intended to supply electrical energy to high-speed railway rolling stock and to non-traction railway consumers;

"railway track" – a subsystem of the high-speed railway transport infrastructure comprising the track superstructure, the subgrade, and the drainage, culvert, anti-deformation, protective and reinforcing structures of the subgrade located within the right-of-way, as well as engineering structures;

"driver's cab" – a part of the body of the high-speed railway rolling stock separated by partitions, in which the workstations of the locomotive crew and the instruments and devices for controlling the high-speed railway rolling stock are located;

"design documentation" – a set of design documents containing the data necessary for the design (development), manufacture, inspection, acceptance, delivery, operation, repair, modernization and disposal of a product;

"design speed" – the maximum running speed of the high-speed railway rolling stock declared in the technical documentation;

"overhead contact system" – the part of the railway traction network intended for transmitting electrical energy to the high-speed railway rolling stock;

"emergency brake valve (emergency stop valve)" – a brake valve used to release air from the brake pipe of the high-speed railway rolling stock and to apply the automatic brakes when an emergency stop is necessary;

"magnetic rail brake" – a device that generates braking force by electromagnetic attraction of the brake shoe to the rail;

"mechanical safety" – safety of high-speed railway transport in which there is no possibility of hazardous mechanical effects occurring;

"modernization of high-speed railway rolling stock" – a set of works to improve the technical and economic characteristics of high-speed railway rolling stock by replacing its components with more advanced ones;

"modernization of high-speed railway rolling stock with service life extension" – a set of works to improve the technical and economic characteristics of high-speed railway rolling stock by making changes to the basic design for the purpose of extending the service life;

"assigned resource" – the total operating time of a product upon reaching which operation of the product shall be terminated regardless of its technical condition;

"assigned service life" – the calendar duration of operation of a product upon reaching which operation of the product shall be terminated regardless of its technical condition;

"assigned storage life" – the calendar duration of storage of a product upon reaching which storage of the product shall be terminated regardless of its technical condition;

"safety assessment" – a document containing a risk analysis, as well as information from the design, operational and process documentation on the minimum necessary safety measures, accompanying the product at all stages of its life cycle and supplemented with information on the results of risk assessment at the operation stage after repair;

"high-speed railway transport infrastructure facility" – a component of the subsystems of the high-speed railway transport infrastructure or a set of components of these subsystems;

"passport" – an operational document containing basic information about the product and technical data, information on completeness, assigned resources, service and storage lives, manufacturer's warranties, the acceptance certificate, information on conformity assessment and the procedure for disposal of the product;

"running section" – a part of a railway line bounded by adjacent railway stations, passing loops, overtaking points or block posts;

"pneumatic brake" – a brake with pneumatic control;

"supervised operation" – regular operation of high-speed railway rolling stock and high-speed railway transport infrastructure facilities

accompanied by additional monitoring and recording of the technical condition of the high-speed railway rolling stock and high-speed railway transport infrastructure facilities;

"fire safety" – safety of high-speed railway transport in which there is no possibility of a fire occurring or of exposure to fire hazards (flames, sparks, heat flux, elevated ambient temperature, toxic products of combustion and thermal decomposition, smoke, reduced oxygen concentration, explosion, consequences of destruction);

"limit state" – a state of the objects of technical regulation of this Technical Regulation in which their further operation is inadmissible or inexpedient, or restoration of their operability is impossible or inexpedient;

"acceptance" – a form of assessment of the conformity of a high-speed railway transport infrastructure facility, the construction of which has been completed, with the requirements of this Technical Regulation;

"products" – high-speed railway rolling stock and its components, as well as elements of components of the subsystems of the high-speed railway transport infrastructure or a set of such elements;

"industrial safety" – safety of high-speed railway transport in which there is no unacceptable risk from accidents at hazardous production facilities and the consequences of such accidents;

"regenerative braking" – braking of high-speed railway rolling stock that is performed by means of the electric brake and in which the electrical energy released when the traction motors are switched to generator mode is fed into the overhead contact system;

"repair documentation" – documentation containing instructions on the organization of repair, the rules and procedure for performing major, medium and current repair, inspection, adjustment, testing, preservation, transportation and storage of the product after repair, installation and

testing, as well as the values of indicators and standards that the product shall meet after repair;

"operating manual" – a document containing information on the design, operating principle and characteristics (properties) of the product and the instructions necessary for the correct and safe operation of the product (intended use, maintenance, routine repair, storage and transportation) and for assessing its technical condition when determining whether it needs to be sent for repair, as well as information on the disposal of the product;

"component of high-speed railway rolling stock" – a part, assembly unit, complex or set thereof, or software, forming part of the design of high-speed railway rolling stock and ensuring its safe operation and the safety of service personnel and (or) passengers;

"components of high-speed railway transport infrastructure subsystems" – special-purpose structures, buildings, devices and equipment ensuring the functioning of high-speed railway transport infrastructure subsystems and the safe movement of high-speed railway rolling stock;

"satellite navigation" – a method of navigation determination consisting in solving navigation tasks by processing data obtained by navigation equipment at navigation objects as a result of receiving radio signals emitted from spacecraft;

"station buildings, structures and devices" – a subsystem of high-speed railway transport infrastructure that includes technological complexes of buildings, structures and devices for performing at railway stations operations with freight, postal items and trains, for the maintenance and repair of high-speed railway transport infrastructure facilities and high-speed railway rolling stock, and also for passenger service;

"parking brake" – a device with a manual or automatic drive unit, located on a unit of high-speed railway rolling stock and intended to secure that unit when stationary against unintended movement, and also for forced emergency stopping where a manual or automatic drive unit is provided inside the unit of high-speed railway rolling stock;

"thermal safety" – safety of high-speed railway transport in which there is no possibility of hazardous effects of high and low temperatures;

"technical compatibility" – a characteristic of high-speed railway rolling stock providing for the possibility of interaction of such rolling stock with one another and with high-speed railway transport infrastructure facilities;

"type sample" – a product sample from a group (subgroup) of products planned for production or produced according to a single document, drawing or other document and (or) forming a standard-size (parametric) series, on the basis of the results of whose quality assessment all products included in the given group (subgroup) are assessed;

"braking" – action on the brake system control instruments and devices for the purpose of reducing the speed of or stopping moving high-speed railway rolling stock;

"braking distance" – the distance travelled by high-speed railway rolling stock from the moment of action on the brake system control instruments and devices, including actuation of the emergency brake valve (stop valve), until it comes to a complete stop;

"initial production series" – the first industrial batch of products manufactured in accordance with technological documentation bearing the letter "O1" and design documentation bearing a letter not lower than "O1" in the course of production start-up for the purpose of confirming the readiness of production to manufacture products meeting the established requirements in the specified volumes;

"devices, complexes and systems for control, monitoring and safety of high-speed railway rolling stock, and their software" – hardware, hardware-software and software means intended to ensure the safety of high-speed railway rolling stock;

"logbook" – an operational document containing basic information on the product and technical data, information on completeness, assigned resources, service lives and storage lives, manufacturer's warranties, the acceptance certificate, information on conformity assessment and the procedure for disposal of the product, as well as on the operation of the item in service, its maintenance and repair;

"chemical safety" – safety of high-speed railway transport in which there is no possibility of exposure to hazardous chemical substances;

"operational document" – a design document (operating manual, logbook, passport, label, etc.) which, separately or together with other documents, establishes the rules for operating the product and (or) contains information certifying the values of the main parameters and characteristics (properties) of the product guaranteed by the manufacturer, warranties and information on its operation during the established service life;

"emergency braking" – braking used in cases requiring an immediate stop of high-speed railway rolling stock, by applying the maximum braking force;

"electrical safety" – safety of high-speed railway transport in which there is no possibility of hazardous and harmful effects of electric current, electric arc, electromagnetic field and static electricity;

"electric brake" – a device in which the braking force is generated by converting the kinetic energy of high-speed railway rolling stock into electrical energy by switching the traction motors to generator mode;

"electromagnetic compatibility" – the ability of high-speed railway transport to function with the specified quality in a specified electromagnetic environment without causing unacceptable electromagnetic interference to railway transport infrastructure facilities and to the railway rolling stock operated on that infrastructure;

"electro-pneumatic brake" – a braking device with electric control of pneumatic brakes;

"subsystem element" – a product or structure used in the construction and installation of a component of a high-speed railway transport infrastructure subsystem;

"label" – an operational document containing basic information about the product and technical data, information on resources, the assigned service life and the assigned storage life, the manufacturer's warranties, the acceptance certificate and information on conformity assessment.

III. Rules for Product Identification

5. Products shall be subject to identification for the purpose of classifying them as objects of technical regulation of this Technical Regulation.

Product identification shall be carried out:

by an accredited certification body included in the unified register of conformity assessment bodies of the Union (hereinafter referred to as the certification body) – in the case of product certification;

by the applicant or, on behalf of the applicant, by a certification body, or by an accredited testing laboratory (centre) included in the unified register of conformity assessment bodies of the Union (hereinafter referred to as the accredited testing laboratory (centre)), or by the manufacturer's own testing laboratory – in the case of product declaration;

by an authorised body of a Member State – in the course of state control (supervision) over compliance with the requirements of this Technical Regulation.

6. Product identification shall be carried out by:

a) establishing that the name, description and intended purpose of the product correspond to the name and characteristics of the product that is an object of technical regulation of this Technical Regulation;

6) comparing the requirements imposed on the product based on its intended purpose with the requirements of this Technical Regulation.

IV. Rules for Placing Products on the Union Market

7. Products shall be placed on the Union market provided that they comply with the requirements of this Technical Regulation and of other Technical Regulations of the Union (Customs Union) that apply to them.

8. Products whose compliance with the requirements of this Technical Regulation has not been confirmed shall not be marked with the single mark of product circulation on the Union market and shall not be permitted to be placed on the Union market or put into operation.

V. Safety Requirements

9. This Technical Regulation, taking into account the degree of risk of harm, establishes the minimum necessary requirements for products, compliance with which ensures:

a) radiation safety;

b) biological safety;

c) explosion safety;

- d) hydrometeorological safety;
- e) mechanical safety;
- f) fire safety;
- g) industrial safety;
- h) thermal safety;
- i) chemical safety;
- j) electrical safety;
- k) electromagnetic compatibility in terms of ensuring the safe operation of instruments and equipment;
- l) uniformity of measurements;
- m) sanitary-epidemiological and environmental safety.

10. When designing the objects of technical regulation of this Technical Regulation, the degree of risk shall be assessed by calculation, experimental and expert methods, including on the basis of data on the operation of similar products.

11. The safety of the objects of technical regulation of this Technical Regulation shall be ensured by:

- a) carrying out a set of research and development work during design;
- b) applying proven technical solutions;
- c) establishing assigned service lives and (or) assigned operating resources, as well as carrying out maintenance and repair at the required intervals;

- d) performing a set of calculations based on proven methods;
 - e) selecting materials and substances during design, as well as in the course of manufacture, construction, installation, adjustment and commissioning, depending on the operating parameters and conditions;
 - f) establishing limit state criteria;
 - g) complying with the requirements of the design documentation, taking into account control by means of supervision exercised by the designer (developer);
 - h) determining the conditions and methods for the disposal of products;
 - i) establishing the parameters of hazardous weather phenomena for high-speed railway rolling stock and organizing instrumental monitoring of the occurrence of these hazardous weather phenomena.
12. The strength, stability and technical condition of the objects of technical regulation of this Technical Regulation shall ensure the safe movement of high-speed railway rolling stock at the highest speeds within the permissible values.
13. When designing and manufacturing the objects of technical regulation of this Technical Regulation, the following shall be ensured:
- a) compliance with the high-speed railway rolling stock gauge;
 - b) compliance with the structure gauge;
 - c) safe operation, taking into account external climatic, geophysical and mechanical impacts;
 - d) technical compatibility with the railway transport infrastructure and with other railway rolling stock operated within this infrastructure;

- e) stability against wheel derailment;
- f) stability against overturning on curved sections of railway track;
- g) prevention of unintended movement from the parking place;
- h) coupling of high-speed railway rolling stock units for the transmission of forces in traction and braking modes;
- i) permissible braking distance during emergency braking;
- j) non-exceedance of linear dynamic loads and maximum permissible forces acting on the railway track;
- k) prevention of components of high-speed railway rolling stock falling onto the railway track;
- l) non-exceedance of the maximum permissible traction and braking forces and acceleration values;
- m) sanitary-epidemiological, environmental and hydrometeorological safety;
- n) electromagnetic compatibility of electrical equipment in terms of ensuring the safe operation of instruments and equipment;
- o) electromagnetic compatibility of electrical equipment with railway automation and remote control devices and with railway telecommunications of the high-speed railway transport infrastructure;
- p) compliance with fire safety requirements;
- q) strength under permissible loading and impact modes;
- r) absence of plastic deformation under longitudinal and vertical limit dynamic loads;

- s) fatigue resistance under low-cycle and high-cycle loading modes;
- t) safe and reliable operation of electrical equipment under nominal and limit power supply modes;
- u) absence of contact between components of a high-speed railway rolling stock unit not provided for by the design documentation that could result in their damage;
- v) coupling of high-speed railway rolling stock on curved sections of railway track.

14. When designing the objects of technical regulation of this Technical Regulation, the designer (developer) shall make decisions ensuring the permissible level, established by the legislation of the Member States, of harmful and (or) hazardous impact on the life and health of humans, animals and plants.

15. The designs of the objects of technical regulation of this Technical Regulation selected by the designer (developer) shall be safe during the assigned service life and (or) until the assigned operating resource is reached, during the assigned storage period, and shall withstand the impacts and loads to which they may be subjected during operation.

16. When designing high-speed railway rolling stock and its components, the designer (developer) shall provide systems for the protection of operating personnel and (or) passengers in the event of a collision and (or) derailment of the high-speed railway rolling stock.

17. When designing the objects of technical regulation of this Technical Regulation, the designer (developer) shall provide for the use of software ensuring the safe functioning of the objects of technical regulation of this Technical Regulation.

18. When changes are made to the design documentation, to the product manufacturing technology, or to the project documentation for the construction of high-speed railway transport infrastructure facilities, the safety requirements established by this Technical Regulation shall be complied with.

19. In the event of changes to the design or manufacturing technology of products affecting safety, as well as in the event of modernization with extension of the service life, a conformity assessment of the products shall be carried out in accordance with the procedure established by Section VII of this Technical Regulation.

20. Measuring instruments falling within the scope of state regulation of ensuring the uniformity of measurements and installed on high-speed railway rolling stock and on high-speed railway transport infrastructure facilities shall comply with the requirements of the legislation of the Member States and of the acts of the Union bodies in the field of ensuring the uniformity of measurements.

21. The level of electromagnetic interference generated by products shall not exceed the values within which such interference does not affect the operability of the objects of technical regulation of this Technical Regulation.

22. For elements of subsystems, a procedure shall be provided for the disposal of hazardous components of subsystems in order to prevent their use after the end of operation.

23. Prior to the commissioning of the objects of technical regulation of this Technical Regulation, inscriptions and signs warning of hazards and of the conditions for safe operation shall be applied or installed at the locations specified in the design documentation.

24. During the design, construction and commissioning of the objects of technical regulation of this Technical Regulation, the requirements of the legislation of the Member States in the field of environmental protection shall be complied with.

25. When designing the objects of technical regulation of this Technical Regulation, the standards of permissible anthropogenic load on the environment shall be taken into account; measures to prevent and eliminate environmental pollution, as well as methods of placement of production and consumption waste, shall be provided for; and resource-saving, low-waste, waste-free and other modern technologies contributing to environmental protection, restoration of the natural environment, and the rational use and reproduction of natural resources shall be applied.

26. During the construction of the objects of technical regulation of this Technical Regulation, measures shall be taken for environmental protection, restoration of the natural environment, land reclamation and landscaping of territories in accordance with the legislation of the Member States.

27. During the design, construction and commissioning of the objects of technical regulation of this Technical Regulation, measures shall be implemented to ensure the preservation of wild animal migration routes and their permanent habitats, including during the breeding and wintering periods.

28. During the operation, inspection, maintenance and repair of high-speed railway rolling stock, the arrangement and installation of its equipment shall ensure the safety of operating personnel; in particular, special footsteps, handrails or devices shall be provided.

29. Control, monitoring and safety devices, complexes and systems of high-speed railway rolling stock shall ensure its operable condition in all intended operating modes and under any external influences provided for

by the climatic version of the given products.

Control, monitoring and safety devices, complexes and systems of high-speed railway rolling stock shall prevent the occurrence of hazardous situations in the event of possible logical errors made by operating personnel.

30. Control, monitoring and safety devices, complexes and systems of high-speed railway rolling stock and their software shall include signalling and information means warning of violations of the serviceable condition of high-speed railway rolling stock and its components that may lead to situations threatening safety.

31. The software of control, monitoring and safety devices, complexes and systems of high-speed railway rolling stock (both embedded and supplied on physical media) shall ensure:

- a) operability after restarts caused by malfunctions and (or) failures of hardware, and integrity in the event of its own malfunctions;
- b) protection against computer viruses, unauthorized access, consequences of failures, errors and malfunctions during the storage, input, processing and output of information, and against the possibility of accidental alteration of information;
- c) conformity with the properties and characteristics described in the program documents, as well as in the documentation supplied with the equipment and containing information for the assembly, installation and operation of that equipment.

32. The software of control, monitoring and safety devices, complexes and systems of high-speed railway rolling stock (implementing safety functions) shall have the version specified in the declaration of conformity with the requirements of this Technical Regulation (hereinafter, the declaration of conformity) for this software.

33. Control, monitoring and safety devices, complexes and systems of high-speed railway rolling stock and their software, in the event of operation of the traction drive and other equipment with malfunctions of the apparatus of the electrical, hydraulic and (or) pneumatic parts, or of a software failure, shall not permit changes in characteristics and operating modes that may lead to a violation of the safe condition of the railway rolling stock.

A failure of the control system while the on-board safety devices are functioning properly shall not lead to a violation of the safe condition of high-speed railway rolling stock.

34. Instruments and devices for controlling high-speed railway rolling stock shall be:

- a) provided with inscriptions and (or) symbols in accordance with the design documentation;
- b) designed and arranged so as to prevent their inadvertent switching on, switching off or switching over;
- c) arranged taking into account the significance of the functions performed and the sequence and frequency of use.

35. High-speed railway rolling stock shall be equipped with the following devices:

- a) train radio communication;
- b) an automated system for the operational control of technological processes related to ensuring traffic safety and information security, providing train speed control and the possibility of receiving (transmitting) voice information when approaching entry and exit signals, level crossings and stations;

- c) motion parameter recorders;
- d) automatic locomotive signalling;
- e) electro-pneumatic brake;
- e) train staff call devices;
- f) door closing monitoring signalling;
- g) automatic fire alarm system.

36. Leading cars of high-speed railway rolling stock shall be equipped with satellite navigation equipment contributing to traffic safety.

37. Automatic locomotive signalling shall be supplemented by safety devices that monitor compliance with the established running speeds, periodically check the driver's vigilance and prevent unintended movement of the electric train from its stopping place. If the driver loses the ability to control the high-speed railway rolling stock, these devices shall bring the high-speed railway rolling stock to an automatic stop.

38. The design of the driver's cab of high-speed railway rolling stock, the layout of the locomotive crew's workstation, the arrangement of control instruments and devices and of information display systems, and the design of the driver's seat shall ensure:

an unobstructed view for the locomotive crew, in both the "seated" and "standing" positions, of the route, wayside signals, adjacent tracks, trains and the overhead contact line;

visibility, for one of the locomotive crew members in the "standing" position, of the working area of personnel involved in shunting when approaching a set of cars.

The design and arrangement of control instruments and devices, measuring instruments and indicator lights on the control desk shall ensure that the readings of these instruments and indicators are visible by day and by night, and shall exclude glare from direct or reflected light reaching the eyes of the driver and the assistant driver when operating the rolling stock in the "seated" and "standing" positions.

39. The layout of the driver's cab of high-speed railway rolling stock, the layout of the locomotive crew's workstation, the arrangement of control instruments and devices and of information display systems, and the design of the driver's seat shall meet ergonomic requirements and ensure ease of control from the "seated" and "standing" positions.

Instruments and devices for controlling high-speed railway rolling stock shall be arranged taking into account the importance of the functions performed and the sequence and frequency of their use.

40. High-speed railway rolling stock shall be equipped with general, local and emergency lighting systems.

The emergency lighting system shall automatically switch over to an independent power source (storage battery) in the absence of voltage in the main power source. Manual switching-on of the emergency lighting shall also be provided for.

41. Emergency exit from the driver's cab of high-speed railway rolling stock shall be provided through the side windows using auxiliary devices.

High-speed railway rolling stock shall be equipped with emergency exits on each side of the car and, where necessary, with means for the emergency evacuation of operating personnel and (or) passengers.

The effort of one person shall be sufficient to open an emergency exit.

42. The glazing of the interior compartments of high-speed railway rolling stock intended for operating personnel and (or) passengers shall ensure the safety of operating personnel and (or) passengers in the event of impacts on the high-speed railway rolling stock while it is stationary or en route.

43. Internal parts of high-speed railway rolling stock requiring inspection, adjustment and maintenance and, where necessary, external working equipment shall be provided with additional lighting.

44. High-speed railway rolling stock shall be equipped with automatic brakes ensuring that, when braking, it stops within the permissible braking distance.

The automatic brakes of high-speed railway rolling stock shall have the necessary functionality, taking into account various operating conditions, and shall ensure that the train stops in the event of a loss of integrity of the brake pipe, a break in the electrical safety circuit or unauthorised uncoupling of units of high-speed railway rolling stock.

45. Automatic brakes shall allow various braking modes to be applied depending on the load of the high-speed railway rolling stock, the length of the train and the track profile.

46. Emergency brake valves in high-speed railway rolling stock shall be installed in the vestibules (in the absence of vestibules, at the entrance doors to the passenger saloon) and shall be capable of being sealed.

Emergency brake valves may be located in the saloon of high-speed railway rolling stock in which passenger boarding and alighting are provided for only with the participation of operating personnel.

Once an emergency brake valve has been activated, it shall not be possible for passengers to deactivate it. Audible and visual notification of the activation of an emergency brake valve shall be transmitted to the

train crew. It shall be possible to block the emergency brake valves in the passenger saloons from the driver's cab.

47. High-speed railway rolling stock shall be equipped with a parking brake.

The parking brake of a unit of high-speed railway rolling stock shall ensure that the unit is held on the specified gradient.

The mechanism of the manual parking brake shall be fitted with a device preventing unintended release of the parking brake.

The use of automatic parking brakes is permitted.

48. Components of high-speed railway rolling stock whose detachment or fracture may cause them to fall onto the track or to extend beyond the gauge of the high-speed railway rolling stock shall be fitted with safety devices capable of bearing the weight of the equipment they protect within the permissible values and preventing contact of the assemblies with the surface of the track bed.

49. The main air reservoirs and storage batteries of high-speed railway rolling stock shall be installed outside the driver's cab, passenger saloons and operating personnel compartments.

50. The action of the electric brake of high-speed railway rolling stock (where fitted) shall be coordinated with the operation of the pneumatic and electro-pneumatic brakes during service or emergency braking. In the event of electric brake failure, its automatic substitution by the electro-pneumatic or pneumatic brake shall be ensured.

51. Additional measures shall be provided to increase the braking efficiency and traffic safety of high-speed railway rolling stock (for example, the use of disc brakes and magnetic track brakes).

High-speed railway rolling stock shall be equipped with a coupling device that prevents spontaneous separation of units of high-speed railway rolling stock and ensures evacuation in emergencies.

The automatic coupling device of high-speed railway rolling stock shall include a draft gear.

52. The design of the coupling (automatic coupling) shall prevent spontaneous separation of units of high-speed railway rolling stock.

53. Cars of high-speed railway rolling stock equipped with a coupling or automatic coupling device shall be equipped with buffer devices.

Where cars of high-speed railway rolling stock are equipped with slack-free coupling devices, buffer devices may be omitted, provided that smooth running is ensured.

54. The static strength margin and the fatigue resistance safety factor shall prevent the formation of cracks in wheels of wheelsets, wheel centres, axles and tyres of wheelsets of high-speed railway rolling stock during the assigned service life and (or) until the assigned operating life is reached.

The mechanical properties, impact toughness and residual stress state of wheels of wheelsets, wheel centres, axles and tyres of wheelsets shall ensure their mechanical safety.

55. Materials and substances used in the manufacture of high-speed railway rolling stock and its components shall be safe for people and the environment.

56. The characteristics (microclimate parameters, air composition, levels of noise (including infrasound), vibration, electromagnetic radiation, illumination) of the life-support systems (air-conditioning systems (heating, ventilation, cooling), lighting systems, noise and vibration

protection, air purification, protection against electromagnetic radiation) of the driver's cabs of high-speed railway rolling stock and of the interior compartments of high-speed railway rolling stock shall comply with the permissible values.

The level of external noise from high-speed railway rolling stock shall not exceed the permissible values.

57. The use of liquids (acids, alkalis, liquefied gases) and fuels and lubricants in the course of manufacture, operation, maintenance and repair of high-speed railway rolling stock and its components shall not give rise to the possibility of a hazardous effect on the life and health of humans, animals and plants.

58. Footsteps and handrails of high-speed railway rolling stock shall be securely fastened. The surface of steps, platforms, footsteps and floorings shall be slip-resistant.

Hazard warning signs shall be applied on cars next to the ladders for climbing onto the roof of high-speed railway rolling stock.

Ladders for climbing onto the roof of high-speed railway rolling stock shall be locked in the closed position and opened by means of a special device.

59. The design of high-speed railway rolling stock shall provide jacking points for lifting it. The surface intended for contact with the jack heads shall prevent them from slipping.

Provision shall be made for lifting each unit of high-speed railway rolling stock by means of cranes and (or) jacks in the event of derailment of wheelsets, and for moving it by means of process equipment in the event of a seized wheelset.

60. Protruding parts of the structure and equipment of high-speed railway rolling stock and its components shall not have sharp ribs, edges or

corners capable of injuring service personnel and (or) passengers.

61. Materials and substances used for finishing the interior surfaces of car passenger saloons and driver's cabs of high-speed railway rolling stock shall not exceed the permissible values of the degree of risk of fire occurrence and spread and of exposure of people to fire hazards.

Passenger cars of high-speed railway rolling stock shall be equipped with a fire-retardant partition between the conductors' compartment and the passenger saloon (where a conductors' compartment is provided), and in compartment cars also between compartments. The space above the ceiling in non-compartment cars and above the large (main) corridor of a compartment car shall be divided into no fewer than 3 zones by installing fire-retardant transoms.

The driver's cab of high-speed railway rolling stock shall be separated by a fire-retardant partition from the rest of the car of high-speed railway rolling stock.

62. High-speed railway rolling stock shall ensure safe passage of service personnel and passengers from car to car via gangways. The gangways shall be of the enclosed type, that is, they shall exclude the possibility of accidental contact of service personnel and passengers with the external elements of high-speed railway rolling stock, with such elements of high-speed railway transport infrastructure as the overhead contact line, the track superstructure, etc., and shall minimize the effect of possible adverse environmental factors on service personnel and passengers while they are on the gangway.

63. Seats and sofas of high-speed railway rolling stock shall be securely fastened to the floor, and (or) the side wall, and (or) a partition, and shall be of a design that excludes the possibility of their overturning, including during emergency braking.

The layout of cars of high-speed railway rolling stock and the arrangement of places for passengers and service personnel shall meet ergonomic requirements.

Places for stowing and securing the personal luggage of passengers and service personnel shall be designed so as not to injure passengers and service personnel during emergency braking.

64. Rotating parts of electrical machines, fans, compressors and other equipment of high-speed railway rolling stock shall be guarded by special devices that exclude accidental contact of service personnel and passengers with moving parts of the equipment of high-speed railway rolling stock.

65. High-speed railway rolling stock shall be provided with protection against overvoltages, overloads, short circuits in traction and auxiliary electrical equipment circuits and in control circuits, earth faults, loss of voltage in the overhead contact line, including during regenerative braking, against voltage rise and drop in the overhead contact line, and against wheelset slipping and sliding. For all types of protection except overvoltage protection, signalling of protection operation shall be provided. Assemblies and parts of the rolling unit shall not permit damage in the event of short circuits in the overhead contact line or in the high-voltage circuits of high-speed railway rolling stock. Protected assemblies and parts shall be designed taking into account the effect of the protective devices on them.

66. Unprotected (uninsulated) live parts of the electrical equipment of high-speed railway rolling stock shall be protected against accidental access to them by service personnel and (or) passengers.

Metal enclosures of electrical equipment, as well as all guards (including pipes) and structures for fastening current-carrying parts that, in the event of a fault, may become energized at a voltage exceeding permissible

values, shall be earthed to the body of high-speed railway rolling stock.

67. High-speed railway rolling stock shall be equipped with special places for storing a set of electrical protective equipment and other special equipment necessary for the maintenance and safe operation of high-speed railway rolling stock.

68. The level of electromagnetic interference generated by high-speed railway rolling stock and its components shall not exceed the values within which such interference does not affect the operability of high-speed railway transport infrastructure facilities and of high-speed railway rolling stock in operation.

69. The overpressure and underpressure of the head air wave generated by the movement of high-speed railway rolling stock shall not have a hazardous effect on passengers on passenger platforms or in the immediate vicinity of the railway track.

70. The battery box of high-speed railway rolling stock shall be explosion-proof.

71. Cars of high-speed railway rolling stock shall be equipped with fire alarm systems and with special places for fire extinguishers and fire-fighting implements. Fire extinguishing installations shall be fitted in machine rooms (compartments), distribution cabinets and underframe boxes with electrical equipment with a voltage of more than 1 000 V, and in rooms in which internal combustion engines for dedicated purposes are installed.

Fire alarm systems shall provide acoustic and/or optical information indicating the location where the fire has started, and shall automatically detect faults (short circuit, open circuit) in the communication lines between the detectors and the control and indicating equipment. Provision shall be made for periodic testing of the serviceability of fire alarm

systems.

72. High-speed railway rolling stock shall be equipped with the following devices:

- a) air-conditioning system (heating, cooling, ventilation, disinfection). Smoking areas (if any) shall be equipped with a separate ventilation system that exhausts air outside the premises without recirculating it;
- b) on-train telephone communication;
- c) axle box heating monitoring system;
- d) domestic and drinking water supply system;
- e) environmentally friendly toilet systems.

73. Cars of high-speed railway rolling stock operated without car attendants shall be equipped with devices, located directly in the passenger saloon, for communication between passengers and the locomotive crew or train crew.

74. Automatic entrance doors of passenger cars of high-speed railway rolling stock shall be fitted with opening (closing) systems (devices) and a closure monitoring system ensuring the safety of service personnel and/or passengers.

Entrance doors of cars of high-speed railway rolling stock shall be equipped with locking devices preventing them from being opened by passengers or unauthorized persons while the train is moving.

75. Emergency opening of entrance doors of cars of high-speed railway rolling stock shall be performed according to the standard scheme, with the doors locked in the open position. Emergency opening of plug-type entrance doors shall be performed manually when the speed of the high-speed railway rolling stock is within the permissible values.

76. High-speed railway rolling stock shall be equipped with spaces intended for travel by persons with disabilities and passengers with children.

77. Cars of high-speed railway rolling stock intended for the carriage of persons with reduced mobility, as well as persons with persistent visual impairments, shall be equipped with:

a) devices for lifting a wheelchair user into the car and lowering them onto the platform (when operating cars of multiple-unit rolling stock intended for boarding passengers from low platforms);

b) devices for boarding and alighting of a wheelchair user (when operating cars of multiple-unit rolling stock intended for boarding passengers from high platforms);

c) devices for securely fastening wheelchairs in the car;

d) special toilets with an area sufficient to accommodate a wheelchair and to perform the necessary manoeuvres;

e) aisles wide enough for a wheelchair user to move to their place and to the special toilet;

f) devices duplicating the visual and audio information provided to passengers in a form accessible to persons with visual or hearing impairments (voice announcements, visual information, signs in Braille).

78. High-speed railway rolling stock shall be equipped with visual and audible signalling devices.

79. The front ends of the leading cars of high-speed railway rolling stock shall be equipped with a headlight and buffer lamps in accordance with the established rolling stock designation schemes.

The headlight shall be mounted on the longitudinal axis of symmetry of the leading car of the high-speed railway rolling stock. The axial beam of the headlight shall be directed parallel to the horizontal plane of the railway track. The headlight switching circuit shall provide for switching on a bright light, ensuring the nominal axial luminous intensity, and a dim light.

Provision shall be made for replacing the headlight lamp (or for redundancy of the light and power sources where an LED headlight is fitted) from the driver's cab.

80. High-speed railway rolling stock shall be equipped with high-volume (air horns) and low-volume (whistles) audible signalling devices. The device for actuating the air horn and the whistle shall be located within reach of the driver and the assistant driver. The audible signal control system of high-speed railway rolling stock shall include devices for direct control of the air horn valve by mechanical action.

81. The pantograph of high-speed railway rolling stock shall be equipped with a device for emergency lowering of the pantograph upon striking an obstacle located below the friction surface of the contact wire.

The ratio of the aerodynamic component of the contact force of the pantograph pan of high-speed railway rolling stock on the contact wire to the static contact force shall not exceed the permissible values.

82. The operational documents for high-speed railway rolling stock and its components (for rolling stock, the operating manual) shall contain recommendations for the safe disposal of high-speed railway rolling stock and its components after expiry of the assigned service life (assigned resource), as well as of the materials and substances used in them.

83. Components of high-speed railway rolling stock whose characteristics are subject to change as a result of exposure to temperature shall remain

operable at ambient air temperatures within the permissible values, as well as after short-term exposure to limiting operating temperature values.

84. The following requirements apply to the railway track, the components of the railway track and the elements of the components of the railway track:

a) all components of the railway track (subgrade, track superstructure, etc.) and elements of the components of the railway track (rails, switches, rail fastenings, sleepers, reinforced concrete half-sleepers, rail fastening pads, ballast, etc.) shall, in terms of strength, bearing capacity and stability, ensure the safe movement of high-speed railway rolling stock at maximum speeds within the permissible values;

б) the track superstructure and the subgrade shall ensure the stability of the railway track position in plan and in longitudinal profile. The geometric parameters of curves shall be established so as to ensure the stability of high-speed railway rolling stock that prevents wheels from derailing and overturning;

в) the level of the subgrade shoulder edge on the approaches to culverts and other water-passage structures across watercourses, where the railway track runs along watercourses and water bodies, as well as the top of reinforced slopes, shall rise by a specified amount above the highest design water level based on the specified probability of exceedance;

г) the design of continuous welded railway track shall exclude buckling of the rail-and-sleeper grid under the simultaneous action of train and temperature loads;

д) engineering structures shall have devices intended for the safe maintenance of both the structures themselves and the tracks (walkways, refuges with handrails, bridge decking, niches, chambers, stairs, descents with handrails, special inspection devices and fixtures, warning signalling,

etc.);

e) switches shall have devices to prevent unauthorized movement of switch blades and movable parts of crossings (frogs) while high-speed railway rolling stock is moving;

ж) the geometric dimensions of the cross-section and the design solutions of tunnels shall be established with a view to minimizing the excess aerodynamic pressure arising when high-speed railway rolling stock enters and travels through a tunnel;

з) when designing high-speed railway transport infrastructure facilities that include component parts of the railway track, and when designing other objects of technical regulation of this Technical Regulation (including elements of component parts of the railway track), special studies shall be carried out in order to take decisions on reducing aerodynamic pressure fluctuations in tunnels, covered cuttings and underground stations when high-speed railway rolling stock passes at maximum speed;

и) the content of harmful substances in a tunnel shall not exceed their maximum permissible concentration in atmospheric air;

к) in the design and construction of railway tracks, their level crossing with motor roads and urban passenger transport lines is not permitted;

л) railway tracks may be crossed by pipelines for various purposes, whether or not they form part of the high-speed railway transport infrastructure, by an above-ground or underground (beneath the subgrade) method, with the pipeline being enclosed (in the case of the underground method) in a protective pipe or tunnel over the specified length and at the specified depth. Pipeline crossings within the body of an embankment are not permitted. Where pipelines cross railway tracks above ground, compliance with the structure gauge shall be ensured. The arrangement of such crossings shall be agreed with the owner of the high-

speed railway transport infrastructure;

м) crossings for people, livestock and migration routes of wild animals across railway tracks shall be designed and equipped at different levels;

н) the established speed of high-speed railway rolling stock over a switch onto a diverging track shall not give rise to lateral accelerations exceeding the permissible values;

о) the level of vibration for settlements, buildings and structures located near the railway track during the passage of high-speed railway rolling stock shall not exceed the permissible values;

п) structures and devices located in the immediate vicinity along the railway track (noise barriers, etc.) shall have places of refuge for maintenance personnel during the passage of high-speed railway rolling stock;

р) the railway track shall be equipped with noise protection structures and devices to reduce the noise level from high-speed railway rolling stock to the permissible values;

с) the railway track shall be fenced along its entire length in order to prevent unauthorized access of unauthorized persons and animals onto the railway tracks;

т) the fencing of the railway track shall be equipped with technical means for detecting attempts of unauthorized access of people and animals onto the railway tracks;

у) on sections with strong crosswinds that may cause overturning and derailment of high-speed railway rolling stock, measures shall be taken to limit the effect of such winds

on high-speed railway rolling stock travelling at the established maximum speed;

φ) sections where railway tracks may be drifted over with snow shall be equipped with snow retention devices;

x) in the design of railway tracks, measures shall be taken to protect passengers and maintenance personnel in emergency situations.

85. The following requirements apply to railway power supply, component parts of railway power supply and elements of component parts of railway power supply:

a) compliance with conditions under which the following are ensured:

a safe distance from live elements of component parts of railway power supply to earthed parts, the ground surface, the decking of pedestrian bridges, stairs and passenger platforms;

a safe distance from elements of component parts of railway power supply to power transmission lines that do not form part of the high-speed railway transport infrastructure;

a voltage level not exceeding the permissible value upon contact with the enclosures of electrical equipment and other metal structures;

the presence of guards and interlocks preventing unauthorized entry into danger zones or contact with live elements of component parts of railway power supply;

a level of radio interference generated by elements of component parts of railway power supply not exceeding the permissible value;

automatic disconnection of the traction network or power transmission lines upon the occurrence of such modes as may lead to damage to, or disruption of the serviceable condition of, railway power supply and other subsystems of high-speed railway transport infrastructure;

presence of warning signs;

fire safety in both normal and emergency modes;

b) use of equipment whose parameters ensure:

dielectric strength of insulation not lower than the permissible value;

temperature rise of the current-carrying parts of the equipment above the ambient temperature at rated current not higher than the permissible value;

a ratio of the smallest insulating gap size at which there is no signal indicating the open position of the overhead contact line disconnecter to the largest insulating gap size not less than the permissible value;

a safety factor for the strength of overhead contact line support posts, support foundations and rigid cross-span beams not less than the permissible value;

relative deflection in the middle part of overhead contact line supporting structures not more than the permissible value;

reverse voltage of the diode earthing device not less than the permissible value;

impulse operating voltage of protection devices of junction (changeover) stations within the permissible values;

the necessary level of protection against hazardous and harmful effects of electromagnetic fields;

automatic disconnection of elements of railway power supply components in the emergency operating mode (in the event of overload, overheating, short circuit, etc.), preventing ignition of its parts;

c) ensuring the mechanical strength of railway power supply equipment when exposed to:

operating loads;

loads in design emergency modes;

installation loads;

d) safe functioning of railway power supply under the simultaneous effect of operating or emergency loads and climatic factors corresponding to the standard values for the area of operation, including in the minimum temperature, maximum temperature, maximum wind speed or ice-with-wind mode;

e) ensuring the safety of operating and operating-and-maintenance personnel against possible contact with live parts and electric shock by:

installing disconnectors with a visible break in all circuits of switchgear (except cubicles with withdrawable units), enabling all apparatus to be disconnected from voltage sources;

equipping all switchgear with a voltage above 1 000 V of traction and transformer substations, as well as linear elements of railway power supply components, with fixed earthing switches ensuring the earthing of apparatus and busbars, and with interlocks or other devices preventing the possibility of erroneous operations with switching apparatus;

equipping fixed enclosures and ladders for climbing onto transformers with interlocks or other devices that allow enclosures to be opened and ladders to be brought into the working position only when the earthing switches are closed;

f) ensuring the supply of high-speed railway rolling stock, structures and devices of the subsystems of high-speed railway transport infrastructure with electric energy of a quality ensuring their safe functioning and improved energy efficiency, through the use of elements of railway power supply components;

g) use of telemechanics equipment for railway power supply systems ensuring:

maintenance of the operable condition in all envisaged operating modes in accordance with the climatic version and the established standards for exposure to mechanical loads;

electromagnetic compatibility with other technical equipment of railway transport, immunity to external power-frequency magnetic fields, electrical pulses and electrical discharges in accordance with the design documentation;

performance of telesignalling, telecontrol and telemetering functions (the latter in the case of operational control);

compatibility in terms of telecontrol, telesignalling and telemetering signals with other telemechanics equipment;

reliability of information transmission and its display at workstations in accordance with the design documentation;

in the event of loss of power via both the main and backup power ports for longer than specified in the technical specifications – automatic shutdown of the telemechanics equipment without loss or distortion of telesignalling, telecontrol and telemetering signals or loss of the product's operability due to loss or corruption of data.

86. The following requirements apply to railway automation and telemechanics, components of railway automation and telemechanics, and elements of components of railway automation and telemechanics:

a) all components of railway automation and telemechanics and elements of components of railway automation and telemechanics shall ensure the safe movement of high-speed railway rolling stock at the established speed and minimum headway;

b) centralized traffic control and dispatcher supervision of the movement of high-speed railway rolling stock shall ensure:

centralized control of points and signals of one or several stations and line sections of the railway track from a single dispatch centre, with provision for backup control of electric interlocking devices at these stations and track posts;

continuous monitoring of the position of points and of the clear (occupied) status of line sections, station tracks and block sections adjacent to stations, as well as of the aspects of home, route and exit signals;

continuous monitoring of the technical condition of signalling, interlocking and block devices at stations and on line sections;

the possibility of changing movement parameters in the event of false occupancy of block sections, including emergency stopping of high-speed railway rolling stock and transmission of permission for high-speed railway rolling stock to pass a signal showing a stop aspect;

transmission of the necessary data to systems informing passengers about the movement of high-speed railway rolling stock, and to systems warning workers performing work on railway tracks of the approach of high-speed railway rolling stock;

c) signalling, interlocking and block systems at stations and on line sections shall ensure:

the passage of high-speed railway rolling stock along established non-conflicting routes at established speeds in both directions at stations and on each track of the line section;

prevention (blocking) of the entry of high-speed railway rolling stock onto a section of railway track that is occupied by other high-speed railway rolling stock;

monitoring of the position of high-speed railway rolling stock, control of points and signals, and execution of the required sequence of interdependent operations;

monitoring of the technical condition of devices and technical equipment and, where necessary, their redundancy;

automatic warning of the approach of high-speed railway rolling stock at railway stations;

prevention of the throwing of points under high-speed railway rolling stock;

d) the technical diagnostics and monitoring system shall ensure monitoring of the pre-failure condition of railway automation and telemechanics devices;

e) railway automation and telemechanics shall be compatible with other subsystems of high-speed railway transport infrastructure and with high-speed railway rolling stock;

f) railway automation and telemechanics, components of railway automation and telemechanics and elements of components of railway automation and telemechanics shall remain in an operable state under all conditions and in all modes provided for in the design throughout the service life assigned to them;

g) software operating as part of railway automation and telemechanics, whether embedded or supplied on physical media, shall ensure:

operability after restarts caused by malfunctions and (or) failures of hardware, and integrity in the event of its own malfunctions;

protection against computer viruses, unauthorized access, the consequences of failures, errors and malfunctions during the storage,

input, processing and output of information, and against the possibility of accidental changes to information;

conformity with the properties and characteristics described in the software documents and in the documentation supplied with the equipment and containing information for the assembly, installation and operation of that equipment.

87. The following requirements apply to railway telecommunications, components of railway telecommunications and elements of components of railway telecommunications:

- a) ensuring the safe movement of high-speed railway rolling stock at the established speed and minimum headway;
- b) ensuring monitoring of operating parameters and integrated management of the operational communications network and of time and frequency synchronization;
- c) compatibility with other subsystems of high-speed railway transport infrastructure and with high-speed railway rolling stock;
- d) maintaining an operable state under all conditions and in all modes provided for in the design throughout the service life assigned to them.

88. The following requirements apply to railway station buildings, structures and devices, components of station buildings, structures and devices, and elements of components of station buildings, structures and devices:

- a) station buildings, structures and devices shall be adapted for the safe performance of passenger boarding, alighting and service operations. Exits from passenger buildings to passenger platforms, as well as exits from passenger platforms to footbridges and pedestrian tunnels, shall not be obstructed by the proximity of other buildings or by the presence of

structures and devices not functionally related to the safety of people, and shall be equipped for the movement of people with prams and of persons with reduced mobility;

b) in order to protect people from the aerodynamic effects of moving high-speed railway rolling stock, passenger platforms shall not be located directly alongside main railway tracks;

c) pedestrian tunnels and underground stations shall have emergency lighting and emergency exits;

d) stations with electric interlocking of switches, tunnels and bridges shall be equipped with a system for warning workers performing work on railway tracks of the approach of high-speed railway rolling stock;

e) permanently located structures and their individual parts shall ensure compliance with the established structure clearance gauge in order to prevent direct contact of the said structures and their individual parts with parts of high-speed railway rolling stock;

f) railway stations shall have devices for preventing spontaneous movement of high-speed railway rolling stock onto train routes (safety dead-end sidings, trap switches, derailing shoes, derailing switch points or derailing switches), which shall comply with the requirements for their inclusion in the interlocking and block system, have monitoring of the protecting position and prevent spontaneous movement of high-speed railway rolling stock onto other tracks and routes for the reception, passage and departure of trains;

g) sections between stations that have long descending gradients, as well as the stations bounding such sections, shall have catch sidings or other structures and devices for stopping high-speed railway rolling stock that has lost control while moving down such a gradient;

h) railway stations, depots and other auxiliary facilities shall have service pedestrian crossings over railway tracks, equipped with decking, signs and warning inscriptions, as well as electric lighting. Exits from service premises located near railway tracks shall have fencing (barriers);

i) facilities and premises at railway stations shall be lit in accordance with the established standards to ensure the safe movement of high-speed railway rolling stock, shunting movements, the safety of passengers when boarding and alighting from cars, the safety of workers, and for the protection of postal items, baggage and consignment baggage. External lighting shall not affect the clear visibility of signal lights;

j) air intake points of compressor units, as well as exhaust gas systems of engines and other equipment, shall be equipped with silencers for aerodynamic noise and gas flows, as well as with other protective devices;

k) overhead power transmission lines shall not cross railway tracks in the throats of railway stations;

l) the junction of new and connecting railway tracks with main railway tracks is not permitted.

89. The necessary (clearly legible) identification and warning inscriptions and marking shall be applied to the objects of technical regulation of this Technical Regulation, and the information contained therein shall be duplicated and explained in the operational documents.

90. High-speed railway rolling stock shall bear marking ensuring its identification and containing the following information:

the single mark of circulation of products on the market of the Union;

the name of the manufacturer and (or) its trademark (if any);

the name of the high-speed railway rolling stock and (or) the designation of the series or type, number;

date of manufacture;

tare weight of the car;

design speed;

a plate or inscription containing information on repairs performed (for newly manufactured high-speed railway rolling stock, a place for such a plate or inscription);

number of seats in the car.

This marking shall be retained throughout the entire life cycle of the high-speed railway rolling stock.

91. Components of high-speed railway rolling stock and elements of subsystems shall bear marking ensuring their identification and containing the following information:

the single mark of circulation of products on the market of the Union;

the name of the manufacturer and (or) its trademark (if any);

the name of the component of high-speed railway rolling stock or of the subsystem element and (or) its designation in accordance with the design documentation;

date of manufacture.

Marking may be applied only to the packaging, provided that the operational documents accompanying the product state that it is impossible or impractical to apply the marking directly to the product owing to the specific features of its design or operating conditions.

The marking of components of high-speed railway rolling stock and of subsystem elements shall be retained throughout their entire life cycle.

If it is impossible to ensure that the marking on the packaging is preserved throughout the entire life cycle of the product, the information contained in the marking may be given only in the operational documents accompanying the product.

92. Wheelsets of high-speed railway rolling stock shall bear marking and stamping marks.

93. Glazing products of high-speed railway rolling stock (glazing products of the driver's cab and side glazing products of cars) shall bear marking containing the following information:

- a) the single mark of circulation of products on the market of the Union;
- b) the name of the manufacturer and (or) its trademark (if any);
- c) designation of the glass type.

94. The requirements provided for in paragraphs 90 – 93 of this Technical Regulation shall be specified in the design documentation for the relevant products.

95. The text contained in the marking and operational documents shall be drawn up in Russian and, where the legislation of a Member State so requires, in the state language (state languages) of the Member State in whose territory the products are sold.

VI. Ensuring Compliance with Safety Requirements

96. Compliance of products with the requirements of this Technical Regulation shall be ensured by meeting its requirements directly or by meeting the requirements of standards included in the list of international

and regional (interstate) standards or, in their absence, national (state) standards, the voluntary application of which ensures compliance with the requirements of this Technical Regulation (hereinafter – the list of standards the application of which ensures compliance with this Technical Regulation).

97. Methods of research (testing) and measurement of products shall be established in standards included in the list of international and regional (interstate) standards or, in their absence, national (state) standards, containing rules and methods of research (testing) and measurement, including sampling rules, necessary for the application and fulfilment of the requirements of this Technical Regulation and for the conformity assessment of objects of technical regulation.

98. For the purpose of meeting the requirements of this Technical Regulation, the standards given in the list of standards the application of which ensures compliance with the requirements of this Technical Regulation shall be applied.

Where the standards included in the list of standards the application of which ensures compliance with the requirements of this Technical Regulation are not applied, conformity assessment shall be carried out on the basis of risk analysis.

Non-application of the standards included in the said list may not be regarded as non-compliance with the requirements of this Technical Regulation.

VII. Conformity Assessment

99. Objects of technical regulation of this Technical Regulation shall be subject to conformity assessment against the requirements of this Technical Regulation before being placed on the market in the customs territory of the Union.

100. Conformity assessment of high-speed rail transport infrastructure facilities shall be carried out in accordance with the technical regulation of the Union establishing safety requirements for buildings and structures, taking into account the specific features of high-speed rail transport infrastructure specified in paragraphs 186 – 194 of this Technical Regulation.

101. Conformity assessment of products shall be carried out in the form of proof of their conformity with the requirements of this Technical Regulation (hereinafter – proof of conformity) according to standard schemes, taking into account the specific features established by this Technical Regulation.

102. State expert review of design documentation shall be carried out in accordance with the legislation of the Member States.

Upon acceptance into operation of high-speed rail transport infrastructure facilities, their conformity shall be established with the approved design documentation, taking into account amendments made to it in the prescribed manner, with this Technical Regulation and with interstate standardization documents.

103. Upon acceptance into operation of high-speed rail transport infrastructure facilities, the results of construction supervision (conclusions of acceptance commissions) regarding the performance of technological operations carried out during the construction of high-speed rail transport infrastructure facilities shall be taken into account.

Construction supervision shall be carried out in accordance with the legislation of the Member States.

104. The list of subsystems of high-speed rail transport infrastructure and components of subsystems subject to acceptance into operation is given in Annex No. 2.

The procedure for acceptance and commissioning of high-speed rail transport infrastructure facilities is set out in paragraphs 186 – 194 of this Technical Regulation.

105. Proof of conformity shall be carried out in the form of:

a) certification by a certification body (schemes 1c, 3c, 4c, 10c, 11c);

6) declaration of conformity of products with the requirements of this Technical Regulation (hereinafter – declaration of conformity) on the basis of the applicant's own evidence and (or) evidence obtained with the participation of a certification body and (or) an accredited testing laboratory (centre) included in the unified register of conformity assessment bodies of the Union (hereinafter – accredited testing laboratory (centre)), or of the manufacturer's own testing laboratory (schemes 1д, 2д, 3д, 4д, 6д).

106. Proof of conformity in the form of certification instead of declaration of conformity is permitted upon the applicant's written request to the certification body.

107. Identification of product samples submitted for testing, and the necessary research (tests) and measurements of products during certification, shall be carried out by accredited testing laboratories (centres).

An accredited testing laboratory (centre) shall carry out research (tests) and measurements of products within its scope of accreditation under the terms of a contract concluded with the certification body (except where the testing laboratory (centre) and the certification body are combined in one entity).

108. Measuring instruments used in research (tests) and measurements shall comply with the requirements of the Member State's legislation on ensuring the uniformity of measurements or of acts of the Union bodies.

109. The following lists are given in the annex to this Technical Regulation:

list of elements of components of subsystems of high-speed rail transport infrastructure, of high-speed railway rolling stock and its components subject to certification, according to Annex No. 3;

list of components of high-speed railway rolling stock and elements of components of subsystems of high-speed rail transport infrastructure subject to declaration of conformity on the basis of the applicant's own evidence (if any) and evidence obtained with the participation of a certification body and (or) an accredited testing laboratory (centre), or to declaration of conformity on the basis of the applicant's own evidence (if any) and evidence obtained, inter alia, with the participation of a management system certification body and an accredited testing laboratory (centre), according to Annex No. 4;

list of components of high-speed railway rolling stock subject to declaration of conformity on the basis of the applicant's own evidence, according to Annex No. 5;

list of provisions of the Technical Regulation of the Customs Union "On Safety of High-Speed Rail Transport" (TR CU 002/2011) applied in proof of conformity of components of high-speed railway rolling stock, according to Annex No. 6;

list of provisions of the Technical Regulation of the Customs Union "On Safety of High-Speed Rail Transport" (TR CU 002/2011) applied in proof of conformity of subsystem elements, according to Annex No. 7;

list of provisions of the Technical Regulation of the Customs Union "On Safety of High-Speed Rail Transport" (TR CU 002/2011) applied in certification of high-speed railway rolling stock, according to Annex No. 8.

110. Products under development specified in Annex No. 3 to this Technical Regulation whose design documentation has been assigned the

letter "O" are not subject to certification.

For other products specified in Annex No. 3 to this Technical Regulation, a certificate of conformity with the requirements of this Technical Regulation (hereinafter – certificate of conformity) is mandatory.

111. Prototypes of products, individual components of which do not have a certificate of conformity or a declaration of conformity, may be released into supervised operation before a certificate of conformity or declaration of conformity for these components is obtained.

112. In the conformity assessment of products against the requirements of this Technical Regulation, the applicant shall be a legal entity or a natural person registered as an individual entrepreneur in the territory of a Member State in accordance with its legislation:

for serially manufactured products – the manufacturer (a person authorized by the manufacturer);

for a batch of products or a single item – the manufacturer (a person authorized by the manufacturer) or the seller (importer).

113. Products that have undergone modernization with an extension of their service life shall be subject to the same conformity assessment procedures as newly manufactured products.

114. The time frames for conformity assessment work shall be determined by an agreement between the certification body and the applicant.

115. In the conformity assessment of products against the requirements of this Technical Regulation, the results of work carried out no more than 5 years ago in the conformity assessment of these products against the requirements of the Technical Regulation of the Customs Union "On Safety of Railway Transport Infrastructure" (TR CU 003/2011) and the Technical

Regulation of the Customs Union "On Safety of Railway Rolling Stock" (TR CU 001/2011), adopted by Decision of the Customs Union Commission No. 710 of 15 July 2011, may be used (test reports, expert opinions, technical opinions, visual inspection reports, safety assessments and other documents obtained in the course of work on the conformity assessment of products against the requirements of the said technical regulations).

1. Procedure for Declaration of Conformity

116. The declaration of conformity schemes applied in accordance with this Technical Regulation include the following procedures:

- a) selection of the declaration of conformity scheme by the applicant adopting the declaration of conformity;
- b) compilation and analysis by the applicant of the set of documents that served as the basis for adopting the declaration of conformity;
- c) identification of the products and (or) selection of product samples, if this is provided for by the declaration of conformity scheme;
- d) performance of production control by the manufacturer of the declared products and taking of all necessary measures to ensure that the production process ensures the conformity of the products with the requirements of this Technical Regulation (for schemes 1d, 3d and 6d);
- e) selection by the applicant of an accredited testing laboratory (centre) where declaration of conformity schemes providing for the participation of an accredited testing laboratory (centre) are applied;
- f) identification of product samples submitted for testing, and studies (tests) and measurements of product samples, depending on the declaration of conformity scheme, in an accredited testing laboratory (centre) or in the manufacturer's own testing laboratory;

g) adoption and registration of the declaration of conformity in accordance with the procedure approved by the Eurasian Economic Commission (hereinafter – the Commission);

h) ensuring by the applicant that the products are marked with the single mark of product circulation on the Union market in accordance with the procedure approved by the Commission;

i) compilation by the applicant, after completion of the proof of conformity procedures in the form of declaration of conformity, of the set of evidentiary materials that served as the basis for adopting the declaration of conformity and that confirm the conformity of the products, and their storage.

117. The following schemes are applied for declaration of conformity:

a) scheme 1d – applied to serially produced products for declaration of conformity on the basis of the applicant's own evidence.

The applicant for declaration of conformity under scheme 1d is the manufacturer (a person authorized by the manufacturer).

The applicant, or (on behalf of the applicant) a certification body, or an accredited testing laboratory (centre), or the manufacturer's own testing laboratory carries out identification of the products and selection of product samples.

Studies (tests) and measurements of product samples are carried out, at the applicant's choice, in an accredited testing laboratory (centre) or in the manufacturer's own testing laboratory;

b) scheme 2d – applied to a batch of products or a single item for declaration of conformity on the basis of the applicant's own evidence.

The applicant for declaration of conformity under scheme 2d is the manufacturer (a person authorized by the manufacturer) or the seller (importer).

The applicant, or (on behalf of the applicant) a certification body, or an accredited testing laboratory (centre), or the manufacturer's own testing laboratory carries out identification of the products and selection of product samples.

Studies (tests) and measurements of product samples are carried out, at the applicant's choice, in an accredited testing laboratory (centre) or in the manufacturer's own testing laboratory;

c) scheme 3d – applied to serially produced products for declaration of conformity on the basis of evidence obtained with the participation of an accredited testing laboratory (centre) and the applicant's own evidence (if any).

The applicant for declaration of conformity under scheme 3d is the manufacturer (a person authorized by the manufacturer).

The applicant, or (on behalf of the applicant) a certification body, or an accredited testing laboratory (centre) carries out identification of the products and selection of product samples.

Studies (tests) and measurements of product samples are carried out in an accredited testing laboratory (centre);

d) scheme 4d – applied to a batch of products or a single item for declaration of conformity on the basis of evidence obtained with the participation of an accredited testing laboratory (centre) and the applicant's own evidence (if any).

The applicant for declaration of conformity under scheme 4d is the manufacturer (a person authorized by the manufacturer) or the seller

(importer).

The applicant, or (on behalf of the applicant) a certification body, or an accredited testing laboratory (centre) carries out identification of the products and selection of product samples.

Studies (tests) and measurements of product samples are carried out in an accredited testing laboratory (centre);

e) scheme 6d – applied to serially produced products where the manufacturer has an implemented management system certified by a management system certification body that is registered as a legal entity in the territory of a Member State in accordance with the procedure established by the legislation of that Member State and accredited by the accreditation body of the Member State as a body performing management system certification activities (hereinafter – the management system certification body).

Scheme 6d is applied on the basis of the applicant's own evidence (if any) and evidence obtained, among other things, with the participation of the management system certification body and an accredited testing laboratory (centre).

The applicant for declaration of conformity under scheme 6d is the manufacturer (a person authorized by the manufacturer).

The applicant, or (on behalf of the applicant) a certification body, or an accredited testing laboratory (centre) carries out identification of the products and selection of product samples.

Studies (tests) and measurements of product samples are carried out in an accredited testing laboratory (centre).

118. The set of documents that served as the basis for adopting the declaration of conformity includes, depending on the declaration of

conformity scheme applied by the applicant:

a) for serially produced products:

a document containing information on the registration or record (individual, identification) number of the applicant assigned upon state registration of a legal entity or of a natural person as an individual entrepreneur in accordance with the legislation of the Member States;

copies of technical documentation (design, process and repair documentation (draft repair documentation), operational documentation and (or) technical specifications (descriptions)) for the product, containing the basic parameters and characteristics of the product as well as its description, for the purpose of conformity assessment;

a list of standards (indicating their designations and titles, as well as sections (clauses, subclauses) if compliance with the requirements of this Technical Regulation can be ensured by applying individual sections (clauses, subclauses) of these standards rather than the standards as a whole) included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation (if applied by the applicant);

a safety assessment for the purpose of proof of conformity where standards included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation are not applied or are applied only in part;

an agreement with the manufacturer (including a foreign manufacturer) providing that the products supplied to the customs territory of the Union conform to the requirements of this Technical Regulation and establishing liability for non-conformity of such products with said requirements (for a person authorized by the manufacturer);

a document containing information on existing certificates of conformity and declarations of conformity for component parts subject to proof of conformity (indicating the number and date of registration);

the certificate (a copy of the certificate) of the manufacturer's management system (for scheme 6д);

other documents of the applicant (results of calculations, expert examinations, reports of research (tests) and measurements of product samples (specimens), etc.) that served as the basis for adopting the declaration of conformity (if available);

b) for a batch of products or a single item:

a document containing information on the registration or record (individual, identification) number of the applicant assigned upon state registration of a legal entity or of an individual as an individual entrepreneur in accordance with the legislation of the Member States;

a copy of the contract (supply agreement) and the shipping documents identifying the single item or the batch of products, including its size;

a copy of the operational documents;

a list of standards (indicating their designations and titles, as well as sections (clauses, subclauses) if compliance with the requirements of this Technical Regulation can be ensured by applying individual sections (clauses, subclauses) of these standards rather than the standards as a whole) included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation (if applied by the applicant);

a safety assessment for the purpose of proof of conformity where standards included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation are not

applied or are applied only in part;

reports of research (tests) and measurements of product samples (if available);

a document containing information on existing certificates of conformity and declarations of conformity for component parts subject to proof of conformity (indicating the number and date of registration);

other documents chosen by the applicant that served as the basis for adopting the declaration of conformity (if available).

119. The set of documents specified in paragraph 118 of this Technical Regulation shall be compiled on paper or electronic media.

Documents submitted to the certification body in electronic form shall be signed using an electronic digital signature (electronic signature) obtained by the applicant in accordance with the legislation of the Member State.

120. The set of documents specified in paragraph 118 of this Technical Regulation, if drawn up in a foreign language, shall be accompanied by a translation into Russian and, where the legislation of the Member State so requires, into the state language of the Member State in which the declaration of conformity is registered.

121. Product samples selected for research (tests) and measurements shall be identical in design, composition and manufacturing technology to the products supplied to the consumer (customer).

122. When conformity is declared on the basis of own evidence and evidence obtained with the participation of a certification body and (or) an accredited testing laboratory (centre), the applicant shall ensure that tests are performed and shall then supplement the set of documents compiled in accordance with paragraph 118 of this Technical Regulation with the sample selection report and the reports of research (tests) and

measurements carried out, depending on the declaration scheme applied, at an accredited testing laboratory (centre) or at the manufacturer's own testing laboratory.

123. Results of research (tests) and measurements of product samples not older than 5 years may be used when declaring conformity.

124. A declaration of conformity for products whose component parts are subject to proof of conformity may be registered only if certificates of conformity or declarations of conformity for those component parts are available.

125. The declaration of conformity shall be drawn up in accordance with the uniform form and rules approved by the Commission.

Declarations of conformity for software shall contain information on the program documents supplied with the product that contain information for the assembly, installation and operation of that product and that were used in the conformity assessment.

126. Registration, suspension, renewal and termination of a declaration of conformity shall be carried out in the manner approved by the Commission.

To register a declaration of conformity, the applicant shall submit the documents provided for by the procedure approved by the Commission, as well as:

the set of documents and information provided for by paragraph 118 of this Technical Regulation;

the sample selection report;

a copy of the report (reports) of research (tests) and measurements carried out, depending on the declaration scheme, at an accredited testing

laboratory (centre) or at the manufacturer's own testing laboratory.

127. Upon completion of the proof of conformity procedures in the form of declaration of conformity, the applicant shall compile and retain a set of evidentiary materials that served as the basis for adopting the declaration of conformity and that confirm the conformity of the products with the requirements of this Technical Regulation, which includes:

- a) the documents provided for in paragraph 118 of this Technical Regulation;
- b) the sample selection report;
- c) the report (reports) of studies (tests) and measurements carried out, depending on the declaration of conformity scheme, in an accredited testing laboratory (centre) or in the manufacturer's own testing laboratory;
- d) the registered declaration of conformity.

128. The validity period of the declaration of conformity:

for serially manufactured products, shall be no more than 5 years;

for a batch of products or a single item, shall not be established.

129. The period for which the applicant shall retain the declaration of conformity and the set of evidentiary materials shall be:

for serially manufactured products – not less than 10 years from the date on which such products were discontinued (production of such products ceased);

for a batch of products or a single item – not less than 10 years from the date of sale of the last item in the batch.

130. The period for which the certification body shall retain copies of the declaration of conformity and the set of evidentiary materials shall be:

not less than 5 years from the date of expiry of the validity period of the declaration of conformity;

not less than 10 years from the date of registration of the declaration of conformity, if the validity period of the declaration of conformity is not limited.

131. When changes are made to the design (composition) of the products or to their manufacturing technology, the applicant shall ensure the conformity of the products with the requirements of this Technical Regulation. In doing so, the applicant shall carry out a set of measures (tests, expert examination, calculation, etc.) and, within 30 calendar days from the date the changes were made, shall submit evidentiary materials on the results of the measures carried out to the body that registered the declaration of conformity, for inclusion in the declaration file.

132. The operational documents accompanying the declared products, as well as the shipping documentation, shall contain the single mark of product circulation on the Union market and information on the declaration of conformity (the registration number of the declaration, the date of issue and the validity period (if any)).

133. The documents that served as the basis for adopting the declaration of conformity and that confirm the conformity of the products with the requirements of this Technical Regulation shall be submitted by the applicant and (or) the certification body (upon request) to the state control (supervision) authorities of the Member States responsible for exercising state control (supervision) over compliance with the requirements of this Technical Regulation and, in cases established by the legislation of the Member States, to other interested persons.

2. Certification Procedure

134. The certification schemes applied in accordance with this Technical Regulation include the following procedures:

- a) submission by the applicant to the certification body of an application for product certification work (hereinafter – the application), specifying the information provided for in paragraph 136 of this Technical Regulation, with the documents specified in paragraph 137 of this Technical Regulation attached;
- b) review and analysis by the certification body of the application and the attached documents, identification of the products by the certification body to determine whether they fall within the field of application of this Technical Regulation, adoption of a decision on the said application and sending of the decision to the applicant;
- c) selection of product samples by the certification body (if provided for by the certification scheme);
- d) performance of research (tests) and measurements of product samples in an accredited testing laboratory (centre) under a contract concluded with the certification body (except where the testing laboratory (centre) and the certification body are combined in a single entity);
- e) analysis of the state of production by the certification body (for scheme 1s);
- f) consolidation and analysis by the certification body of the documents submitted by the applicant, the results of research (tests) and measurements of product samples and the results of the analysis of the state of production (if any);
- g) decision by the certification body to issue or to refuse to issue the certificate of conformity;

h) execution and issue of the certificate of conformity by the certification body, or sending to the applicant of the decision refusing to issue the certificate of conformity;

i) entry of information on the issued certificate of conformity into the unified register of issued certificates of conformity and registered declarations of conformity;

j) ensuring by the applicant that the products are marked with the single mark of circulation of products on the Union market in accordance with the procedure approved by the Commission;

k) periodic assessment of certified products by the certification body (for scheme 1s).

135. The following schemes are applied in the certification of products in accordance with the requirements of this Technical Regulation:

a) scheme 1s – is applied to serially produced products and to a pilot production series.

The applicant for certification under scheme 1s is the manufacturer (a person authorised by the manufacturer).

The certification body carries out:

identification of the products and selection of product samples for their research (tests) and measurements;

analysis of the state of production;

periodic assessment of certified products during the validity period of the certificate of conformity 1 time per year by means of identification of product samples received for testing, research (tests) and measurements of samples of certified products in an accredited testing laboratory (centre), and analysis of the state of production.

The certificate of conformity is issued for a period of not more than 5 years;

b) scheme 3s – is applied to a batch of products.

The applicant for certification under scheme 3s is the manufacturer (a person authorised by the manufacturer) or the seller (importer).

In addition to the information provided for in paragraph 136 of this Technical Regulation, the application specifies the identifying features of the product batch, including its composition and size (the number of product units in the batch, the serial numbers of the products).

The certification body carries out identification of the product batch and selection of product samples from the batch submitted for certification for their research (tests) and measurements.

The validity period of the certificate of conformity is not established;

c) scheme 4s – is applied to a single item where the research (tests) and measurements for that item are not destructive.

The applicant for certification under scheme 4s is the manufacturer (a person authorised by the manufacturer) or the seller (importer).

In addition to the information provided for in paragraph 136 of this Technical Regulation, the application specifies the identifying features of the single item.

The certification body carries out identification of the product and selection of the single item for its research (tests) and measurements.

The validity period of the certificate of conformity is not established;

d) scheme 10s – is applied in the case of a limited, predetermined volume of sales of products that will be supplied (sold) within a short period of

time in separate batches as they are serially produced (for products imported into the customs territory of the Union – under short-term contracts; for products manufactured in the customs territory of the Union – with a limited production volume).

The applicant for certification under scheme 10s is the manufacturer (a person authorised by the manufacturer).

The certification body carries out identification of the products and selection of product samples for their research (tests) and measurements.

The certificate of conformity is issued for a predetermined limited series of products manufactured over a limited time, for a period not exceeding 1 year;

e) scheme 11s – is applied to the certification of a rail fastening whose manufacturer is the developer or holder of the design documentation.

The applicant for certification under scheme 11s is the manufacturer (a person authorised by the manufacturer).

The certification body carries out identification of the product and selection of a type sample of the rail fastening for its research (tests) and measurements.

The certificate of conformity is issued for the product type without limitation of its validity period.

136. The application for certification is drawn up by the applicant in Russian and, where the legislation of the Member State so requires, in the state language of the Member State in which the product certification is carried out, and must contain:

a) the full name of the product certification body and its location (address of the legal entity);

b) the full name of the applicant, its location (address of the legal entity) and the address(es) of the place(s) of business (if the addresses differ) – for a legal entity, or the surname, first name and patronymic (if any), place of residence and the address(es) of the place(s) of business (if the addresses differ) – for an individual registered as an individual entrepreneur, as well as the registration or record (individual, identification) number of the applicant assigned upon state registration of a legal entity or of an individual registered as an individual entrepreneur in accordance with the legislation of the Member States, bank details, telephone number and e-mail address;

c) the position, surname, first name and patronymic (if any) of the head of the legal entity or of the representative of the applicant organization who is authorized in accordance with the legislation of the Member State to submit the application to the product certification body (indicating the name and details of the authorizing document);

d) the full name of the manufacturer, its location (address of the legal entity) and the address(es) of the place(s) where products are manufactured (if the addresses differ) – for a legal entity and those of its branches that manufacture the products, or the surname, first name and patronymic (if any), place of residence and the address(es) of the place(s) where products are manufactured (if the addresses differ) – for an individual registered as an individual entrepreneur, if the applicant is not the manufacturer of the products being certified;

e) the following information about the products that ensures their identification, and about their identifying features:

the name, type, model and modification of the products, the product code(s) according to the Unified Commodity Nomenclature of Foreign Economic Activity of the Eurasian Economic Union, the technical description of the products, and the designation and name of the document(s) in accordance with which the products were manufactured

(standard, organization standard, technical specifications or other document) (if any);

a description of the products that corresponds to the instructions for use (operation) of the products and to other technical documentation in accordance with paragraphs 137 and 138 of this Technical Regulation, as well as the type of production (serial production, pilot batch, batch or single product (number of units in the batch, identification features of a product unit), information on the contract (supply agreement) and on the shipping documents identifying the single item or batch of products, including its size);

f) a reference to the provisions of this Technical Regulation whose requirements the products being certified comply with;

g) the certification scheme selected by the applicant;

h) additional information at the applicant's discretion;

i) a list of the documents attached to the application;

j) an indication that standards are applied whose application ensures compliance with the requirements of this Technical Regulation.

137. The following documents shall be attached to the application:

a) for serially manufactured products, and also for the certification of rail fastenings:

a document containing information on the registration or record (individual, identification) number of the applicant assigned upon state registration of a legal entity or of an individual as an individual entrepreneur

in accordance with the legislation of the Member States;

a copy of the document(s) in accordance with which the products are manufactured (technical specifications and (or) organization standards (or a document replacing them));

copies of the design, process and repair documentation (draft repair documentation), and a set of operational documents (to the extent agreed with the certification body);

a list of standards (indicating their designations and names, as well as sections (paragraphs, subparagraphs) if compliance with the requirements of this Technical Regulation can be ensured by applying individual sections (paragraphs, subparagraphs) of these standards rather than the standards as a whole) that are included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation (if the applicant has applied them);

a safety assessment for the purpose of conformity confirmation if the standards included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation have not been applied or have been applied only in part;

a copy of the contract with the manufacturer (including a foreign manufacturer) that provides for ensuring the conformity of products imported into the customs territory of the Union with the requirements of this Technical Regulation and for liability for the non-conformity of such products with those requirements (for a person authorized by the manufacturer);

copies of reports on research (tests) and measurements of the products (if any);

a document containing information on existing certificates of conformity and declarations of conformity for components that are subject to conformity confirmation (indicating the number and date of registration);

a copy of the report on acceptance (qualification) tests (submitted upon initial certification);

a copy of the act of the qualification commission and, in the case of initial certification, also of the act of the acceptance commission (if any);

a copy of the action plan for eliminating deficiencies identified by the acceptance (qualification) commission (if any), and documents confirming its implementation;

information on claims;

a proposal for the method and place of applying the single mark of product circulation on the Union market;

other documents at the applicant's choice (if any).

The documentation may be submitted as it is drawn up and approved, but in any case before a decision is made on whether a certificate of conformity can be issued;

b) for a batch of products or a single item:

information on the registration or record (individual, identification) number of the applicant assigned upon state registration of a legal entity or of an individual as an individual entrepreneur in accordance with the legislation of the Member States;

a copy of the contract (supply agreement) and the shipping documents identifying the single item or batch of products, including its size;

copies of operational documents;

a list of standards (indicating their designations and titles, as well as sections (clauses, subclauses), if compliance with the requirements of this Technical Regulation can be ensured by applying individual sections

(clauses, subclauses) of these standards rather than the standards as a whole) included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation (if applied by the applicant);

a safety assessment for the purposes of conformity confirmation in the event of non-application or partial application of the standards included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation;

reports of studies (tests) and measurements of product samples (if any);

a document containing information on the existing certificates of conformity and declarations of conformity for component parts subject to conformity confirmation (indicating the number and date of registration);

other documents at the applicant's discretion (if any).

By decision of the certification body, product testing may be replaced by an expert examination on extending the results of tests of similar product samples set out in certification test reports not more than 5 years old. The expert examination shall be carried out by the certification body or by another organization by decision of the certification body.

138. Documents attached to the application and drawn up in a foreign language shall be accompanied by a translation into Russian and, where the legislation of the Member State so requires, into the state language of the Member State in which the product certification is carried out.

Copies of documents attached to the application shall be certified by the applicant's signature and seal (unless otherwise established by the legislation of the Member State).

Documents submitted to the certification body may be submitted in electronic form and signed using an electronic digital signature (electronic

signature) obtained by the applicant in accordance with the legislation of the Member State.

139. In product certification, the results of acceptance and other tests of the product being certified or of similar product samples may be taken into account, provided that they were carried out in accredited testing laboratories (centers) under programs agreed with the certification body.

In this case, the applicant shall submit the application for certification before the start of the acceptance and other tests and submit to the certification body a schedule for such tests. The accredited testing laboratory (center) shall inform the certification body of the start and progress of the tests. The said tests may be taken into account in certification only if, based on their results, no significant changes requiring repeated studies (tests) and measurements have been made to the product design and its manufacturing technology.

140. The certification body shall consider the application for certification and, within a period not exceeding 30 calendar days after its receipt, send the applicant a positive decision on the application or a decision refusing certification.

141. A positive decision on an application for certification shall specify the main conditions of certification, including:

- a) information on the certification scheme;
- b) the time frame for certification;
- c) information on the regulatory documents on the basis of which product certification will be carried out;
- d) the conditions for the analysis of the state of production, if provided for by the certification scheme;

- e) the conditions for the selection of product samples;
- f) information on the scope of studies (tests) and measurements and other methods of assessing the conformity of the product with the requirements of this Technical Regulation;
- g) the conditions for the periodic assessment of the product being certified.

142. The grounds for the certification body to decide to refuse certification are:

- a) failure to submit, or incomplete submission of, the documents specified in paragraph 137 of this Technical Regulation;
- b) incompleteness and (or) unreliability of the information contained in the submitted documents;
- c) impossibility of classifying the product as falling within the scope of this Technical Regulation;
- d) non-compliance of the applicant with the requirements of this Technical Regulation that establish the range of applicants for certification.

143. In the course of certification, product identification and the selection of product samples shall be carried out by the certification body.

By agreement with the applicant, the selection of product samples may be carried out by a person authorized by the certification body, which may be another certification body or an accredited testing laboratory (center) whose scope of accreditation covers the product.

The selection of product samples for studies (tests) and measurements shall be carried out in accordance with the requirements established by the standards included in the list of standards containing the rules and methods of studies (tests) and measurements, including sampling rules,

necessary for the application and fulfilment of the requirements of this Technical Regulation and for conformity assessment of the product.

The selected product samples shall be identical in design, composition and manufacturing technology to the product intended for supply to the consumer (customer).

The selected product samples shall be marked and sent for studies (tests) and measurements. If necessary, sealing may be performed, as well as marking of individual component parts of the selected product.

144. The sampling report shall contain:

- a) the number and date of the sampling report;
- b) the name and address of the manufacturer and of the applicant;
- c) the name, type, model and modification of the product;
- d) the size (volume) of the batch from which the samples were selected;
- e) the result of the external inspection of the batch (appearance, condition of packaging and marking);
- f) the date of manufacture and the date of acceptance of the product;
- g) the designation and title of the regulatory document in accordance with which the samples were selected;
- h) the quantity and numbers of the selected samples;
- i) the place of sampling;
- j) the details and signatures of the representatives of the certification body and of the applicant (or manufacturer).

145. The sampling report for a product whose component parts are subject to conformity confirmation shall be accompanied by a list of those component parts, indicating the manufacturer and the designation of the design documentation according to which they are manufactured.

146. The results of the assessment of certification indicators determined by visual inspection may be recorded in the sampling report, the report on the results of the analysis of the state of production, the visual inspection report or another document drawn up by the certification body in the course of certification work.

147. During product identification, the basic characteristics of the product specified in the application for certification are compared with the actual characteristics given in the marking and in the accompanying documentation, including:

- a) name, type, model and modification;
- b) name of the manufacturer or information on the origin of the product;
- c) the document in accordance with which the product is manufactured;
- d) belonging to the relevant batch;
- e) information on belonging to the relevant technological process (where necessary).

148. In the case of repeated certification of the high-speed railway rolling stock specified in Section II of Annex No. 3 to this Technical Regulation by the certification body that previously certified this product, that body may decide to conduct an expert examination of the evidentiary documentation instead of studies (tests) and measurements of the product, where the product has results of studies (tests) and measurements with respect to track impact indicators and indicators related to dynamic and fatigue tests that are not older than 10 years.

In this case, such results of studies (tests) and measurements may be accepted during repeated certification only if there have been no changes to the design and (or) process documentation affecting these indicators, and no changes to the standards that are included in the list of standards whose application ensures compliance with the requirements of this Technical Regulation and that establish track impact indicators and indicators related to dynamic and fatigue tests.

In all other cases, results of studies (tests) and measurements older than 5 years shall not be considered for the purposes of product certification.

149. The protocol of studies (tests) and measurements shall contain:

- a) the name and designation of the protocol of studies (tests) and measurements, with the document designation repeated on each page;
- b) the name and address of the accredited testing laboratory (center), information on accreditation (the name of the accreditation body, the number of the accreditation certificate, the date of issue of the accreditation certificate (or the details of the accreditation order, or the unique number of the accreditation entry in the register of accredited persons) and the validity period of the accreditation certificate (if any));
- c) information on the certification body that commissioned the studies (tests) and measurements (for a certification test protocol);
- d) the details of the identification report for the product samples received for testing, information on the manufacturer and the date of manufacture of the product;
- e) the date of receipt of the product for studies (tests) and measurements;
- f) information on the indicators being verified and the requirements for them, as well as on the regulatory documents containing these requirements;

- g) the date (period) of the studies (tests) and measurements;
- h) information on the methods and procedures of studies (tests) and measurements used in the studies (tests) and measurements;
- i) information on the storage of the product before the studies (tests) and measurements and on the preparation of the product for the studies (tests) and measurements, as well as information on the place where the studies (tests) and measurements were conducted and on the environmental conditions during the studies (tests) and measurements;
- j) information on the owned and leased testing equipment and measuring instruments used;
- k) information on studies (tests) and measurements performed by another accredited testing laboratory (center) (if any);
- l) the results of the studies (tests) and measurements, supported where necessary by tables, graphs, photographs and other materials;
- m) a statement that the protocol of studies (tests) and measurements applies only to the samples subjected to the studies (tests) and measurements;
- n) the signature of the head of the accredited testing laboratory (center), certified by the organization's seal (if any);
- n) information on the positions and the signatures of the responsible persons who carried out the studies (tests) and measurements;
- p) information on the position and the signature of the person (persons) responsible for preparing the report of studies (tests) and measurements on behalf of the accredited testing laboratory (centre) (if necessary);
- c) the date of issue of the report of studies (tests) and measurements;

т) a statement that any amendments to the report of studies (tests) and measurements shall be made in a separate document (a new report cancelling and replacing the previous one);

у) a statement excluding the possibility of partial reproduction of the report of studies (tests) and measurements.

150. The following shall be attached to the report of studies (tests) and measurements:

a) a certified copy of the product sampling report drawn up in accordance with paragraph 144 of this Technical Regulation;

б) a certified copy of the product readiness report drawn up by the applicant (manufacturer);

в) a certified copy of the identification report for the product sample received for testing, drawn up by the testing laboratory (centre).

151. The report of studies (tests) and measurements shall not contain recommendations or proposals based on the test results.

152. Reports of studies (tests) and measurements prepared in accordance with the requirements of paragraphs 149 and 150 of this Technical Regulation shall be submitted to the certification body in 2 copies (the first is placed in the certification file, the second is sent to the applicant).

153. By agreement with the certification body, reports of studies (tests) and measurements may be submitted as an electronic document signed with an electronic digital signature (electronic signature) obtained in accordance with the legislation of the Member State.

154. The analysis of the state of production is carried out to establish whether the conditions necessary for manufacturing products with stable characteristics, as verified during certification, are in place.

155. The analysis of the state of production shall be performed no earlier than 12 months before the date of issue of the certificate of conformity, if the analysis of the state of production is provided for by the certification scheme.

156. The analysis of the state of production covers:

- a) technological processes;
- б) technological and design documentation (including its management);
- в) process equipment and tooling;
- г) process modes;
- д) management of process equipment and tooling;
- е) management of metrological equipment;
- ж) methods of studies (tests) and measurements;
- з) the procedure for inspecting raw materials and components;
- и) the procedure for in-process inspection of products;
- к) control of nonconforming products;
- л) the procedure for handling complaints;
- м) personnel management;
- н) management of regulatory documentation for the products.

157. Based on the results of the analysis of the state of production, a report on the results of the analysis of the state of production of the products being certified is drawn up, stating:

- a) the results of the analysis of the state of production;

- б) additional materials used in the analysis of the state of production;
- в) an overall assessment of the state of production;
- г) the need for corrective actions and the time limits for performing them.

158. After analysing the report of studies (tests) and measurements, examining the results of the analysis of the state of production (if this is established by the certification scheme), and examining the results of the expert review of the set of documents submitted by the applicant in accordance with paragraph 137 of this Technical Regulation, the certification body prepares a decision to issue (or to refuse to issue) the certificate of conformity.

159. The certificate of conformity shall be issued within no more than 15 working days from the date on which the certification body receives the reports of studies (tests) and measurements and (if necessary) the documents confirming that the nonconformities identified during certification have been eliminated.

160. The grounds for the certification body to decide to refuse to issue a certificate of conformity are:

- а) nonconformity of the products with the requirements of this Technical Regulation (including a negative result of the certification tests of the products);
- б) a negative result of the analysis of the state of production (if this is established by the certification scheme);
- в) the presence of inaccurate information in the documents obtained in the course of the certification work.

161. On the basis of the decision to issue the certificate of conformity, the certification body draws up the certificate of conformity using the uniform

form and rules approved by the Commission, registers it in the unified register of issued certificates of conformity and registered declarations of conformity, and issues it to the applicant.

The certificate of conformity may be signed by the experts (expert auditors) who signed the report on the results of the analysis of the state of production when the relevant application for certification work was considered.

A certificate of conformity is valid only if it has a registration number.

162. Certificates of conformity are valid from the date of their registration in the unified register of issued certificates of conformity and registered declarations of conformity.

163. The certificate of conformity shall include a list of the specific kinds and types of products it covers.

164. A certificate of conformity for products whose components are subject to conformity confirmation may be issued only if certificates of conformity or declarations of conformity for those components are available.

165. When changes are made to the design (composition) of the products or their production technology that may affect the conformity of the products with the requirements of this Technical Regulation, the applicant shall notify the certification body in advance. The certification body decides whether additional studies (tests) and measurements of the products and (or) an analysis of the state of their production are required.

166. After the additional studies (tests) and measurements and (or) the analysis of the state of production have been carried out, the certification body decides whether the certificate of conformity may remain valid in view of the changes made to the design of the certified item and (or) its manufacturing technology.

All evidentiary materials obtained during conformity assessment that demonstrate the conformity of the modified design of the certified item and (or) its manufacturing technology with the requirements of this Technical Regulation shall be attached to the certification file containing the primary evidence of the conformity of the products with the requirements of this Technical Regulation.

167. The operational documents accompanying certified products, and the shipping documentation, shall contain the single mark of product circulation on the Union market, a record of the certification performed, as well as the record number of the certificate of conformity form, its registration number, date of issue and validity period.

168. Replacement of a certificate of conformity or issuance of its duplicate shall be carried out in accordance with the procedure provided for by the standard schemes.

169. Periodic assessment of certified products, where provided for by the certification scheme, shall be carried out by the certification body that performed the certification of the products. Periodic assessment of certified products may be scheduled or unscheduled and ensures that information on the certified products is obtained in the form of results of studies (tests) and measurements and of analysis of the state of production of the products (by decision of the certification body), in order to establish that the products continue to comply with the requirements of this Technical Regulation confirmed during certification.

170. The certification body shall carry out periodic assessment of certified products during the validity period of the certificate of conformity no more often than 1 time per year according to a schedule drawn up by the certification body.

171. The criteria for determining the frequency and scope of periodic assessment of certified products are:

- a) the degree of potential hazard of the products;
- б) the results of the certification of the products performed;
- в) the stability of production of the products;
- г) the production volume of the products;
- д) the presence of a certified management system.

172. The time limit for carrying out the first periodic assessment of certified products shall be established in the decision of the certification body on the issuance of the certificate of conformity. The frequency of subsequent periodic assessments may be established in the reports on periodic assessment.

173. Unscheduled periodic assessment of certified products shall be carried out in the following cases:

- a) where there is information (supporting documents) on complaints concerning the safety of the products.

Such information may be received from consumers, as well as from authorities exercising state control (supervision) over the safety of products for which a certificate of conformity has been issued. The scope of work during unscheduled periodic assessment of products is determined by the need to verify the technological processes associated with the identified deficiencies in ensuring product safety;

- б) if the manufacturer does not produce the certified products for a period exceeding 1 calendar year.

In this case, the products may be placed on the market in the customs territory of the Union only after unscheduled periodic assessment has been carried out.

174. Periodic assessment of certified products includes:

- a) analysis of the materials obtained during certification of the products;
- б) analysis of incoming information on the certified products (including analysis of the results of supervised operation, if provided for);
- в) verification of the conformity of the documents for the certified products with the requirements of this Technical Regulation;
- г) selection of product samples, identification of the product samples received for testing, performance of studies (tests) and measurements of the product samples in an accredited testing laboratory (centre), and analysis of the results obtained in accordance with the certification schemes;
- д) verification that no changes affecting the safety indicators of the products have been introduced into the design and manufacturing technology of the products recorded during certification;
- е) analysis of the state of production of the products, if provided for by the certification scheme;
- ж) verification of corrective actions to eliminate previously identified nonconformities;
- з) verification of the correctness of marking of the products with the single mark of product circulation on the Union market;
- и) analysis of complaints concerning the certified products.

175. The scope (certification indicators), the number of samples for studies (tests) and measurements, and the procedure for performing studies (tests) and measurements during periodic assessment of certified products shall be determined by the certification body carrying out the periodic assessment of the certified products.

176. The results of periodic assessment of certified products shall be documented in a report on periodic assessment of certified products.

In the report on periodic assessment of certified products, on the basis of the results of the work performed in accordance with paragraph 174 of this Technical Regulation, a conclusion shall be made on the conformity of the products with the requirements of this Technical Regulation, the stability of their fulfilment and the possibility of maintaining the issued certificate of conformity, or on the suspension (termination) of the validity of the certificate of conformity; the report may also specify the time limit for the next periodic assessment, the scope (certification indicators) of testing and the number of samples for studies (tests) and measurements during the next periodic assessment of certified products.

177. The time limit for submitting the results of studies (tests) and measurements of product samples selected during periodic assessment of certified products shall be established by the certification body, taking into account the scope of the studies (tests) and measurements.

178. Where samples of certified products are not available during the period of periodic assessment of certified products and (or) cannot be selected for studies (tests) and measurements (of which the applicant officially informs the certification body), the check shall be carried out in accordance with paragraph 174 of this Technical Regulation, with the exception of selection and identification of the product samples received for testing, performance of studies (tests) and measurements of the samples, and analysis of the results obtained.

When production of the certified products is resumed, the applicant shall inform the certification body that sampling of the products, their identification and research (testing) and measurements in an accredited testing laboratory (centre) can be carried out. In such a case, further work shall be carried out taking into account the work already performed and in accordance with subparagraph "6" of paragraph 173 of this Technical

Regulation.

179. If the results of research (testing) and measurements are not available within 6 months from the date of the analysis of the state of production of the products in accordance with subparagraph "e" of paragraph 174 of this Technical Regulation, the certificate of conformity shall be suspended.

180. The certificate of conformity may be reinstated after research (testing) and measurements of samples have been carried out in an accredited testing laboratory (centre) and the results obtained have been analysed, provided that no more than 12 months have passed since the analysis of the state of production of the products in accordance with subparagraph "e" of paragraph 174 of this Technical Regulation. After 12 months have elapsed from the date of the analysis of the state of production of the products in accordance with subparagraph "e" of paragraph 174 of this Technical Regulation, the certificate of conformity may be reinstated only after an analysis of the state of production of the products has been carried out and the results of research (testing) and measurements have been submitted, while maintaining the established frequency of periodic assessment of the certified products.

181. Based on the results of the periodic assessment of the certified products, one of the following decisions may be taken:

a) the certificate of conformity remains valid if the products comply with the requirements of this Technical Regulation;

6) the certificate of conformity is suspended if the applicant can eliminate the identified causes of non-compliance of the products with the requirements of this Technical Regulation by means of corrective measures;

в) the certificate of conformity is terminated if the applicant cannot eliminate the identified causes of non-compliance of the products with the requirements of this Technical Regulation by means of corrective measures.

182. A decision to suspend or terminate the certificate of conformity may be taken by the certification body at the request of the applicant.

183. The certificate of conformity shall be terminated from the date on which the corresponding entry is made in the unified register of issued certificates of conformity and registered declarations of conformity.

184. Suspension or termination of the certificate of conformity shall be carried out in the manner provided for by the standard schemes.

185. Products in respect of which the certificate of conformity has been terminated may be resubmitted for certification after the applicant has implemented the necessary corrective measures.

186. High-speed railway transport infrastructure facilities whose construction has been completed shall be subject to the procedure of acceptance into operation.

187. Acceptance into operation shall be carried out in full or by construction phases in accordance with the design documentation and taking into account the amendments made to it in the established manner.

188. Acceptance into operation shall be carried out by an acceptance commission appointed by the customer.

Acceptance into operation of railway tracks, as well as of high-speed railway transport infrastructure facilities whose construction was carried out using funds from the budgets of the Member States, shall be carried out by an acceptance commission appointed by a body of the Member State.

189. To verify the readiness of high-speed railway transport infrastructure facilities whose construction has been completed for presentation to the acceptance commission, the customer shall appoint a working commission (working commissions) after receiving official notification from the contractor of the completion of construction.

190. The decision of the working commission on the readiness of high-speed railway transport infrastructure facilities for acceptance into operation shall be made:

a) based on the results of verification of the compliance of high-speed railway transport infrastructure facilities with the requirements of this Technical Regulation and the approved design documentation, taking into account the amendments made to it in the established manner;

6) based on the results of the analysis of the as-built documentation developed by the contractor;

b) on the basis of the results of measurements, including by means of automated track-measuring and diagnostic systems, tests of structures, devices and mechanisms, as well as integrated trial operation of equipment.

191. Based on the results of the verification, the working commission shall draw up a conclusion on the readiness of high-speed railway transport infrastructure facilities for acceptance into operation by the acceptance commission. If deviations from the design documentation are identified, they shall be eliminated before the high-speed railway transport infrastructure facility is accepted by the acceptance commission.

192. Acceptance commissions shall verify the elimination of non-conformities identified by the working commissions and the readiness of high-speed railway transport infrastructure facilities for acceptance into operation. This verification shall be carried out according to a programme

drawn up by the customer and approved by the acceptance commission. Acceptance by the acceptance commission of high-speed railway transport infrastructure facilities whose construction has been completed shall be formalised by an act on the basis of the conclusion of the working commission, as well as documents submitted by the contractor.

The act of acceptance into operation of high-speed railway transport infrastructure facilities shall be signed by all members of the acceptance commission, each of whom bears responsibility for the decisions taken by the commission within the limits of their competence. If individual members of the acceptance commission refuse to sign the act, they shall submit to the chairperson of the commission the conclusions of the relevant bodies they represent, setting out their comments on matters within their competence.

The said comments shall be resolved with the participation of the bodies that issued the conclusion.

High-speed railway transport infrastructure facilities in respect of which such comments have not been resolved within the time limit established for the work of the acceptance commission shall be declared by the acceptance commission as not ready for commissioning.

193. The commissioning of high-speed railway transport infrastructure facilities without completion of the works on environmental protection, restoration of the natural environment, land reclamation and landscaping provided for by the design documentation in accordance with the legislation of the Member States is prohibited.

194. To obtain a permit for the commissioning of high-speed railway transport infrastructure facilities, the customer shall submit a corresponding application to the body of the Member State whose competence, in accordance with national legislation, includes the issuance of permits for the commissioning of high-speed railway transport

infrastructure facilities. The application shall be accompanied by the documents provided for by the legislation of the Member States.

If the verification of the submitted documents yields a positive result, the customer shall be issued a permit for the commissioning of high-speed railway transport infrastructure facilities.

VIII. Marking with the Single Mark of Product Circulation on the Union Market

195. Products that comply with the safety requirements and have undergone the conformity confirmation procedure shall bear the single mark of product circulation on the Union market.

196. Marking with the single mark of product circulation on the Union market shall be carried out before the products are placed into circulation on the Union market.

197. The single mark of product circulation on the Union market shall be applied to each unit of products.

The single mark of product circulation on the Union market shall be applied to the item itself and shall also be shown in the operational documents accompanying it.

The single mark of product circulation on the Union market shall be applied by any method that ensures a clear and distinct image throughout the entire service life of the products.

198. The single mark of product circulation on the Union market may be applied to the packaging only, with a corresponding indication in the accompanying operational documents, where it cannot be applied directly to the products owing to the features of their design.

199. Marking of products with the single mark of product circulation on the Union market indicates their conformity with the requirements of all Technical Regulations of the Union (of the Customs Union) that apply to them.

ANNEX No. 1
to the Technical Regulation
of the Customs Union
"On Safety of High-Speed
Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic Commission
of 14 September 2021 No. 90)

LIST

of the objects of technical regulation subject to the requirements of the Technical Regulation of the Customs Union "On Safety of High-Speed Railway Transport" (TR CU 002/2011)

I. Subsystems and components of subsystems of high-speed railway transport infrastructure

1. Track superstructure
2. Drainage, anti-deformation, protective and reinforcement structures
3. Railway track
4. Railway stations
5. Subgrade
6. Overhead contact line

7. Railway traction network
8. Railway traction substations
9. Wayside railway power supply devices
10. Power transmission lines for the power supply of non-traction consumers
11. Railway bridges
12. Railway track fencing
13. Passenger platforms
14. Pedestrian bridges over railway tracks
15. Pedestrian tunnels under railway tracks
16. Systems, devices and equipment of railway automation and remote control
17. Systems, devices and equipment of railway telecommunications
18. Systems, devices and equipment of railway power supply devices on running lines between stations and at stations
19. Railway tunnels
20. Transformer substations
21. Culverts
22. Traction substation (sectioning post)
23. Railway track section

24. Noise protection structures and devices

II. Elements of the components of the high-speed railway transport infrastructure subsystems

25. Automated operational control systems for technological processes related to ensuring traffic safety and information security

26. Telemechanics equipment for railway power supply devices

27. Reinforced concrete posts for overhead contact line supports of electrified railways

28. Bolts for rail joints

29. Embedded bolts for rail fastenings of railway track

30. Clip bolts for rail fastenings of railway track

31. Reinforced concrete bearers for turnouts for railways of 1 520 mm gauge

32. Valve-type arresters and overvoltage limiters for railway power supply devices

33. Nuts for rail joint bolts

34. Nuts for embedded bolts of rail fastenings of railway track

35. Nuts for clip bolts of rail fastenings of railway track

36. Fitting sets, external point locks of railway turnouts

37. Generators, receivers, filters, amplifiers for audio-frequency track circuits

38. Axle counting system sensors and track section monitoring sensors

39. Decoders and decoder units for numerical code automatic block signalling
40. Diode earthing devices for overhead contact line equipment of electrified railways
41. Insulators for overhead contact lines of electrified railways
42. Clips for indirect and direct rail fastenings
43. Spring bar clips for rail fastening
44. Sets of filter lenses and lenses, lens sets with lamp holder for railway lens-type signals
45. Crossings of turnouts
46. Metal posts for overhead contact line supports of electrified railways
47. Fishplates for insulated joints of railway rails
48. Double-headed rail fishplates for broad-gauge railways
49. Switch blades of turnouts of various types and grades
50. Base plates for indirect fastening of railway track
51. Reinforced concrete half-sleepers
52. Contact wires made of copper and its alloys for railway overhead contact lines
53. Railway transport software for automated operational control systems for technological processes related to ensuring traffic safety and information security
54. Rail fastening pads

- 55. Spring rail anchors for railway rails
- 56. Disconnectors for traction substations of electrified railway power supply systems
- 57. Railway overhead contact line disconnectors
- 58. Reactors for traction substations of electrified railway power supply systems
- 59. Fail-safe electromagnetic relays, including electronic ones, for railway automation and telemechanics systems, relay units
- 60. Rail fastening
- 61. Railway check-rail rails
- 62. Railway switch-blade rails
- 63. Broad-gauge railway rails
- 64. Cross-beams of rigid cross-spans of overhead contact line suspension devices of electrified railways
- 65. LED light-optical systems for railway signal and level crossing signalling
- 66. Colour filters, lenses, filter lenses, diffusers and deflecting inserts for railway signalling devices
- 67. Static converters for power supply devices of electrified railways
- 68. Turnouts, repair kits (half-switches), diamond crossings of railway tracks
- 69. Electromechanical point machines

- 70. Insulated joints of railway rails
- 71. Elastic spring track elements (double-coil washers, disc springs, clips)
- 72. Protection devices for junction stations of electrified railways
- 73. Foundations for overhead contact line supports of electrified railways
- 74. Reinforced concrete sleepers for railways of 1 520 mm gauge
- 75. Track screws
- 76. Crushed natural stone for the ballast layer of railways
- 77. Fastening elements for railway turnouts

III. High-Speed Railway Rolling Stock

- 78. Direct-current, alternating-current and dual-system (direct- and alternating-current) electric multiple units, and their cars

IV. Components of High-Speed Railway Rolling Stock

- 79. Automatic brake rigging regulator (slack adjuster)
- 80. Automatic parking brake of railway rolling stock
- 81. High-voltage apparatus for protection and monitoring of railway rolling stock against short-circuit currents
- 82. Wheel tires for railway rolling stock
- 83. Magnetic rail brake shoes
- 84. Brake shoe holders of railway rolling stock
- 85. Brake pad holders of disc brakes of railway rolling stock

86. Brake interlock
87. Side glazing products for multiple-unit rolling stock
88. Valve-type surge arresters and overvoltage limiters for electric rolling stock
89. Air distributors
90. Auxiliary electrical machines for railway rolling stock (with a power of more than 1 kW) that are separate structural items
91. High-speed automatic circuit breakers and main circuit breakers for electric rolling stock
92. High-voltage inter-car connections (receptacle and plug together)
93. Hydraulic dampers of railway rolling stock
94. Brake discs for railway rolling stock
95. Driver's cab glazing products for multiple-unit rolling stock
96. Rubber sealing products for pneumatic brake systems of railway rolling stock (diaphragms, cups, collars, seals, gaskets)
97. Automatic coupler draft yoke key
98. Cylindrical gear wheels of traction transmissions of railway rolling stock
99. Wheels of wheelsets of railway rolling stock
100. Wheelsets of high-speed railway rolling stock without axle box assemblies
101. Composite brake shoes for railway rolling stock

- 102. Combined (cast iron-composite) brake shoes for railway rolling stock
- 103. Cast iron brake shoes for railway rolling stock
- 104. Compressors for railway rolling stock
- 105. High-voltage electropneumatic and electromagnetic contactors
- 106. Automatic coupler body
- 107. Driver's seats for railway rolling stock
- 108. Passenger seats and sofas of multiple-unit rolling stock
- 109. Disc brake caliper mechanism
- 110. Disc brake pads
- 111. Finished axles for railway rolling stock
- 112. Rough axles for railway rolling stock
- 113. Front and rear automatic coupler stops
- 114. High-voltage changeover switches and isolating switches for railway rolling stock
- 115. Draft gear
- 116. Rolling roller bearings for axle boxes of railway rolling stock
- 117. High-voltage fuses for railway rolling stock
- 118. Power semiconductor converters (with a power of more than 5 kW)
- 119. Rotary (electric machine) converters for railway rolling stock
- 120. Magnetic rail brake actuator

- 121. Anti-skid device of railway rolling stock
- 122. Suspension springs of railway rolling stock
- 123. High-voltage disconnectors, short-circuiters, isolators and earthing switches for railway rolling stock
- 124. Reactors for electric trains
- 125. Air reservoirs for multiple-unit rolling stock
- 126. Rubber-cord shells of traction drive couplings of multiple-unit rolling stock
- 127. Starting, electric brake and damping resistors
- 128. High-voltage electromagnetic and electronic relays (protective, intermediate, time and differential)
- 129. Connecting hoses for brakes of railway rolling stock
- 130. Windscreen wipers for multiple-unit rolling stock
- 131. Coupling (including automatic coupler)
- 132. Bogies of trailer cars of multiple-unit rolling stock
- 133. Air horns (typhons) for multiple-unit rolling stock
- 134. Driver's brake valves
- 135. Traction electric motors for electric trains
- 136. Automatic coupler draft yoke
- 137. Electric heating devices for heating systems of electric trains

- 138. Control, monitoring and safety devices, complexes and systems of railway rolling stock, and their software
- 139. Device for automatic regulation of braking force depending on load (automatic load regulator)
- 140. Rolled disc wheel centers for railway rolling stock
- 141. Cast wheel centers for railway rolling stock (castings)
- 142. Brake cylinders for railway rolling stock
- 143. Low-voltage electrical equipment for railway rolling stock (low-voltage controllers, automatic circuit breakers, electromagnetic and electronic relays (protective, intermediate, time and differential))

ANNEX No. 2
to the Technical Regulation
of the Customs Union
"On Safety of High-Speed
Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic
Commission
of 14 September 2021 No. 90)

LIST

of subsystems of high-speed railway transport

infrastructure and components of subsystems subject to

acceptance into operation

- 1. Track superstructure
- 2. Drainage, anti-deformation, protective and reinforcement structures
- 3. Railway track

4. Railway stations
5. Subgrade
6. Overhead contact line system
7. Railway traction network
8. Railway traction substations
9. Linear railway power supply installations
10. Power transmission lines supplying non-traction consumers
11. Railway bridges
12. Railway track fencing
13. Passenger platforms
14. Pedestrian bridges over railway tracks
15. Pedestrian tunnels under railway tracks
16. Systems, devices and equipment of railway automation and remote control
17. Systems, devices and equipment of railway telecommunications
18. Systems, devices and equipment of railway power supply installations on lines between stations and at stations
19. Railway tunnels
20. Transformer substations
21. Culverts

- 22. Traction substation (sectioning post)
- 23. Railway track section
- 24. Noise protection structures and devices

ANNEX No. 3
to the Technical Regulation
of the Customs Union
"On the Safety of High-Speed
Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic Commission
of 14 September 2021 No. 90)

LIST

of elements of components of subsystems of high-speed railway transport infrastructure, high-speed railway rolling stock and its components subject to certification

I. Elements of Components of Subsystems of High-Speed Railway Transport Infrastructure

- 1. Automated systems for operational control of technological processes related to ensuring traffic safety and information security
- 2. Telemechanics equipment for railway power supply devices
- 3. Reinforced concrete posts for overhead contact line supports of electrified railways
- 4. Clamp bolts for rail fastenings of railway track
- 5. Reinforced concrete bearers for turnouts for railways of 1 520 mm gauge

6. Valve-type arresters and overvoltage limiters for railway power supply devices
7. Fittings sets, external point locks of railway turnouts
8. Generators, receivers, filters, amplifiers for audio-frequency track circuits
9. Axle counting system sensors and track section monitoring sensors
10. Decoders and decoder units for numerical code automatic block signalling
11. Insulators for overhead contact lines of electrified railways
12. Clips for separate-type and non-separate-type rail fastenings
13. Spring bar clips for rail fastening
14. Sets of filter lenses and lenses, lens sets with lamp holder for lens-type signals of railway transport
15. Turnout crossings (frogs)
16. Metal posts for overhead contact line supports of electrified railways
17. Joint bars for insulated rail joints
18. Double-head rail joint bars for broad-gauge railways
19. Switch blades of turnouts of various types and grades
20. Baseplates for separate-type fastenings of railway track
21. Reinforced concrete half-sleepers
22. Contact wires made of copper and its alloys for railway overhead contact lines

- 23. Rail fastening pads
- 24. Safety electromagnetic relays, including electronic ones, for railway automation and telemechanics systems, relay units
- 25. Rail fastening
- 26. Railway check rails
- 27. Railway switch-blade rails
- 28. Broad-gauge railway rails
- 29. Crossbeams of rigid cross-spans of overhead contact line suspension devices of electrified railways
- 30. LED light-optical systems for railway signal and level crossing signalling
- 31. Light filters, lenses, filter lenses, diffusers and deflecting inserts for signalling devices of railway transport
- 32. Turnouts, repair kits (half-switches), diamond crossings of railway tracks
- 33. Electromechanical point machines
- 34. Insulated joints of railway rails
- 35. Resilient spring track elements (double-coil washers, disc springs, clips)
- 36. Protection devices for junction stations of electrified railways
- 37. Foundations for overhead contact line supports of electrified railways
- 38. Reinforced concrete sleepers for railways of 1 520 mm gauge

39. Crushed natural stone for the ballast layer of railways

40. Fastening elements for railway turnouts

II. High-Speed Railway Rolling Stock

41. Direct current, alternating current and dual-system (direct and alternating current) electric trains, and their cars

III. Components of High-Speed Railway Rolling Stock

42. High-voltage devices for protection and monitoring of railway rolling stock against short-circuit currents

43. Tyres for railway rolling stock

44. Side glazing products for multiple-unit rolling stock

45. Valve-type arresters and overvoltage limiters for electric rolling stock

46. Air distributors

47. High-speed automatic circuit breakers and main circuit breakers for electric rolling stock

48. Brake discs for railway rolling stock

49. Driver's cab glazing products for multiple-unit rolling stock

50. Cylindrical gear wheels of traction gears of railway rolling stock

51. Wheels of wheelsets of railway rolling stock

52. Wheelsets of high-speed railway rolling stock without axle-box assemblies

53. Composite brake blocks for railway rolling stock

54. Combined (cast iron-composite) brake blocks for railway rolling stock
55. Cast iron brake blocks for railway rolling stock
56. Compressors for railway rolling stock
57. High-voltage electropneumatic and electromagnetic contactors
58. Automatic coupler body
59. Disc brake caliper mechanism
60. Disc brake pads
61. Finished axles for railway rolling stock
62. Rough axles for railway rolling stock
63. Draft gear
64. Rolling roller bearings for axle boxes of railway rolling stock
65. Power semiconductor converters (with a power rating of more than 5 kW)
66. Suspension springs of railway rolling stock
67. Rubber-cord shells of traction drive couplings of multiple-unit rolling stock
68. Coupler (including automatic coupler)
69. Bogies of trailer cars of multiple-unit rolling stock
70. Driver's brake valves
71. Traction electric motors for electric trains

- 72. Draft yoke of the automatic coupler
- 73. Electric heating devices for heating systems of electric trains
- 74. Rolled disc wheel centres for railway rolling stock
- 75. Cast wheel centres for railway rolling stock (castings)

ANNEX No. 4
to the Technical Regulation
of the Customs Union
"On Safety of High-Speed
Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic Commission
of 14 September 2021 No. 90)

LIST

of components of high-speed railway rolling stock and elements of components of high-speed railway transport infrastructure subsystems subject to declaration of conformity on the basis of the applicant's own evidence (if available) and evidence obtained with the participation of a certification body and (or) an accredited testing laboratory (centre), or to declaration of conformity on the basis of the applicant's own evidence (if available) and evidence obtained, including with the participation of a management system certification body and an accredited testing laboratory (centre)

I. Elements of Components of Subsystems of High-Speed Railway Transport Infrastructure

- 1. Bolts for rail joints

2. Embedded bolts for rail fastenings of railway track
3. Nuts for rail joint bolts
4. Nuts for embedded bolts of rail fastenings of railway track
5. Nuts for clip bolts of rail fastenings of railway track
6. Diode earthing devices for overhead contact line equipment of electrified railways
7. Railway transport software for automated systems of operational control of technological processes related to ensuring traffic safety and information security
8. Spring rail anchors for railway rails
9. Disconnectors for traction substations of power supply systems of electrified railways
10. Disconnectors of railway overhead contact line
11. Reactors for traction substations of power supply systems of electrified railways
12. Static converters for power supply devices of electrified railways
13. Track screws

II. Components of High-Speed Railway Rolling Stock

14. Automatic parking brake of railway rolling stock
15. Magnetic track brake shoes
16. Auxiliary electrical machines for railway rolling stock (with a power of more than 1 kW) that are separate structural products

17. High-voltage inter-car connections (socket and plug together)
18. Hydraulic dampers of railway rolling stock
19. Rubber sealing products for pneumatic brake systems of railway rolling stock (diaphragms, cup seals, collars, seals, gaskets)
20. Automatic coupler draft yoke key
21. Driver's seats for railway rolling stock
22. Passenger seats and sofas of multiple-unit rolling stock
23. High-voltage change-over switches and cut-out switches for railway rolling stock
24. High-voltage fuses for railway rolling stock
25. Electric machine converters for railway rolling stock
26. Magnetic track brake actuator
27. High-voltage disconnectors, short-circuiters, sectionalizers and earthing switches for railway rolling stock
28. Reactors for electric trains
29. Air reservoirs for multiple-unit rolling stock
30. Starting, electric braking and damping resistors
31. High-voltage electromagnetic and electronic relays (protective, intermediate, time and differential)
32. Brake coupling hoses for railway rolling stock
33. Air horns (typhons) for multiple-unit rolling stock

- 34. Control, monitoring and safety devices, complexes and systems of railway rolling stock, and their software
- 35. Brake cylinders for railway rolling stock
- 36. Low-voltage electrical equipment for railway rolling stock (low-voltage controllers, automatic circuit breakers, electromagnetic and electronic relays (protective, intermediate, time and differential))

ANNEX No. 5
to the Technical Regulation
of the Customs Union
"On Safety of High-Speed
Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic
Commission
No. 90 of 14 September 2021)

LIST

of components of high-speed railway rolling stock subject to declaration of conformity on the basis of the applicant's own evidence

- 1. Automatic brake rigging regulator (slack adjuster)
- 2. Brake block holders for railway rolling stock
- 3. Disc brake pad holders for railway rolling stock
- 4. Brake interlock
- 5. Front and rear automatic coupler stops
- 6. Wheel slide protection device for railway rolling stock
- 7. Windscreen wipers for multiple-unit rolling stock

8. Load-dependent automatic brake force control device (avtoreshim)

ANNEX No. 6
to the Technical Regulation
of the Customs Union "On Safety of
High-Speed Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic Commission
of 14 September 2021 No. 90)

LIST

of provisions of the Technical Regulation of the Customs Union "On Safety of High-Speed Railway Transport" (TR CU 002/2011) applied in the confirmation of conformity of components of high-speed railway rolling stock

Components of high-speed railway rolling stock	Designation of the paragraph (subparagraph) of the Technical Regulation
1. Automatic brake rigging slack adjuster (auto-adjuster)	subparagraph "B" of paragraph 13, paragraphs 15, 82, 91, 94
2. Automatic parking brake of railway rolling stock	subparagraph "B" of paragraph 13, paragraphs 15, 82, 91, 94
3. High-voltage devices for protection and monitoring of railway rolling stock against short-circuit currents	subparagraph "ϕ" of paragraph 13, paragraphs 15, 82, 89, 91, 94
4. Wheel tires for railway rolling stock	subparagraphs "B", "c" – "y" of paragraph 13, paragraphs 15, 54, 82, 89, 91, 94
5. Magnetic track brake shoes	subparagraph "B" of paragraph 13, paragraphs 15, 82, 89, 91, 94

6. Brake block holders of railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
7. Disc brake pad holders of railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
8. Brake interlock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
9. Side glazing units of multiple-unit rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 93, 94
10. Valve-type arresters and surge limiters for electric rolling stock	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
11. Air distributors	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
12. Auxiliary electrical machines for railway rolling stock (with a power rating exceeding 1 kW) that are separate structural items	subparagraphs "в", "г", "о", "п" and "ф" of paragraph 13, paragraphs 15, 21, 82, 89, 91, 94

13. High-speed automatic circuit breakers and main circuit breakers for electric rolling stock	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
14. High-voltage inter-car connections (socket and plug together)	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
15. Hydraulic dampers of railway rolling stock	subparagraphs "в", "н" and "р" of paragraph 13, paragraphs 15, 82, 89, 91, 94
16. Brake discs for railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
17. Driver's cab glazing units of multiple-unit rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 93, 94
18. Rubber sealing products for pneumatic brake systems of railway rolling stock (diaphragms, cups, collars, seals, gaskets)	subparagraph "в" of paragraph 13, paragraphs 15, 82, 83, 91, 94
19. Automatic coupler yoke key	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94

20. Cylindrical gear wheels of traction gears of railway rolling stock	subparagraphs "в", "с" – "у" of paragraph 13, paragraphs 15, 82, 89, 91, 94
21. Wheels of wheelsets of railway rolling stock	subparagraphs "в", "г", "с" – "у" of paragraph 13, paragraphs 15, 54, 82, 89, 91, 94
22. Wheelsets of high-speed railway rolling stock without axle box assemblies	subparagraphs "а", "в", "г", "с" – "у" of paragraph 13, paragraphs 15, 54, 82, 89, 91, 92, 94
23. Composite brake blocks for railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
24. Combined (cast iron-composite) brake blocks for railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
25. Cast iron brake blocks for railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
26. Compressors for railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94

27. High-voltage electropneumatic and electromagnetic contactors	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
28. Automatic coupler body	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
29. Driver's seats for railway rolling stock	subparagraphs "в", "н" and "р" of paragraph 13, paragraphs 15, 63, 82, 89, 91, 94
30. Passenger seats and sofas of multiple-unit rolling stock	subparagraphs "в", "н" and "р" of paragraph 13, paragraphs 15, 63, 82, 89, 91, 94
31. Disc brake caliper mechanism	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
32. Disc brake pads	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
33. Finished axles for railway rolling stock	subparagraphs "в", "с" – "у" of paragraph 13, paragraphs 15, 54, 82, 89, 91, 94

34. Rough axles for railway rolling stock	subparagraphs "в", "с" – "у" of paragraph 13, paragraphs 15, 82, 89, 91, 92, 94
35. Front and rear draft stops of the automatic coupler	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
36. High-voltage change-over switches and disconnect switches for railway rolling stock	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
37. Draft gear	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
38. Rolling roller bearings for axle boxes of railway rolling stock	subparagraphs "в", "с" – "у" of paragraph 13, paragraphs 15, 82, 89, 91, 94
39. High-voltage fuses for railway rolling stock	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
40. Semiconductor power converters (with a power rating exceeding 5 kW)	subparagraphs "в", "г", "о", "п" and "ф" of paragraph 13, paragraphs 15, 21, 82, 89, 91, 94

41. Rotary (electric machine) converters for railway rolling stock	subparagraphs "в", "г", "о", "п" and "ф" of paragraph 13, paragraphs 15, 21, 82, 89, 91, 94
42. Magnetic track brake actuator	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
43. Wheel slide protection device of railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
44. Suspension springs of railway rolling stock	subparagraphs "в", "с" – "у" of paragraph 13, paragraphs 15, 82, 89, 91, 94
45. High-voltage disconnectors, short-circuiters, sectionalizers and earthing switches for railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
46. Reactors for electric trains	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
47. Air reservoirs for multiple-unit rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94

48. Rubber-cord shells of traction drive couplings of multiple-unit rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
49. Starting, electric braking and damping resistors	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
50. High-voltage electromagnetic and electronic relays (protective, intermediate, time and differential)	subparagraph "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
51. Connecting hoses for brakes of railway rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
52. Windscreen wipers for multiple-unit rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
53. Coupler (including automatic coupler)	subparagraphs "в" and "з" of paragraph 13, paragraphs 15, 52, 82, 89, 91, 94
54. Bogies of trailer cars of multiple-unit rolling stock	subparagraphs "а", "в", "с" – "у" of paragraph 13, paragraphs 15, 82, 89, 91, 94

55. Air horns (typhons) for multiple-unit rolling stock	subparagraph "в" of paragraph 13, paragraphs 15, 56, 82, 89, 91, 94
56. Driver's brake valves	subparagraph "в" of paragraph 13, paragraphs 15, 82, 89, 91, 94
57. Traction electric motors for electric trains	subparagraphs "в", "г", "о", "п" and "ф" of paragraph 13, paragraphs 15, 21, 82, 89, 91, 94
58. Automatic coupler yoke	subparagraph "в" of paragraph 13, paragraphs 15, 82, 91, 94
59. Electric heating devices for heating systems of electric trains	subparagraphs "п" and "ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94
60. Control, monitoring and safety devices, complexes and systems of railway rolling stock, and their software	subparagraphs "в"*, "г"* and "ф" of paragraph 13, paragraphs 15, 21*, 29*, 30*, 31**, 33*, 34*, 82*, 89, 91, 94

61. Device for automatic regulation of braking force depending on load (load-sensing device, "autoregime")	subparagraph "B" of paragraph 13, paragraphs 15, 82, 91, 94
62. Rolled disc wheel centres for railway rolling stock	subparagraphs "B", "C" - "Y" of paragraph 13, paragraphs 15, 54, 82, 89, 91, 94
63. Cast wheel centres for railway rolling stock (castings)	subparagraphs "B", "C" - "Y" of paragraph 13, paragraphs 15, 54, 82, 89, 91, 94
64. Brake cylinders for railway rolling stock	subparagraph "B" of paragraph 13, paragraphs 15, 82, 89, 91, 94
65. Low-voltage electrical equipment for railway rolling stock (low-voltage controllers, automatic circuit breakers, electromagnetic and electronic relays (protective, intermediate, time and differential))	subparagraph "Ф" of paragraph 13, paragraphs 15, 82, 89, 91, 94

* The requirement does not apply to software.

** The requirement does not apply to control, monitoring and safety devices, complexes and systems.

APPENDIX No. 7 **to the Technical Regulation**

**of the Customs Union "On Safety
of High-Speed Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic Commission
of 14 September 2021 No. 90)**

LIST

of provisions of the Technical Regulation of the Customs Union "On Safety of High-Speed Railway Transport" (TR CU 002/2011) applied in confirmation of conformity of elements of components of subsystems of high-speed railway transport infrastructure

Elements of components of subsystems of high-speed railway transport infrastructure	Designation of the paragraph (subparagraph) of the Technical Regulation
1. Automated systems for operational control of technological processes related to ensuring traffic safety and information security	paragraph 15, subparagraphs "a" – "e" of paragraph 86, paragraph 94
2. Telemechanics equipment for railway power supply devices	paragraphs 15, 22, subparagraph "ж" of paragraph 85, paragraphs 89, 91
3. Reinforced concrete poles for overhead contact line supports of electrified railways	subparagraph "в" of paragraph 13, paragraphs 15, 22, subparagraphs "6" and "в" of paragraph 85, paragraphs 89, 91, 94

4. Bolts for rail joints	paragraph 12, subparagraph "B" of paragraph 13, paragraph 15, subparagraph "a" of paragraph 84, paragraphs 89, 91, 94
5. Embedded bolts for rail fastenings of railway track	paragraph 12, subparagraph "B" of paragraph 13, paragraph 15, subparagraph "a" of paragraph 84, paragraphs 89, 91, 94
6. Clip bolts for rail fastenings of railway track	paragraph 12, subparagraph "B" of paragraph 13, paragraph 15, subparagraph "a" of paragraph 84, paragraphs 89, 91, 94
7. Reinforced concrete bearers for turnouts for railways of 1 520 mm gauge	subparagraph "B" of paragraph 13, paragraph 15, subparagraphs "a" and "6" of paragraph 84, paragraphs 89, 91
8. Valve-type arresters and surge limiters for railway power supply devices	paragraphs 15, 22, subparagraphs "a" – "r" of paragraph 85, paragraphs 89, 91

9. Nuts for rail joint bolts	paragraph 12, subparagraph "в" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraphs 89, 91, 94
10. Nuts for embedded bolts of rail fastenings of railway track	paragraph 12, subparagraph "в" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraphs 89, 91, 94
11. Nuts for clip bolts of rail fastenings of railway track	paragraph 12, subparagraph "в" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraphs 89, 91, 94
12. Fitting sets, external point locks of railway turnouts	paragraph 15, subparagraphs "а" and "е" of paragraph 86, paragraphs 89, 91, 94, 95
13. Generators, receivers, filters, amplifiers for audio-frequency track circuits	subparagraph "в" of paragraph 13, paragraphs 15, 21, 22, subparagraphs "д" and "е" of paragraph 86, paragraphs 89, 91, 94

14. Axle counting system sensors and track section monitoring sensors	subparagraph "в" of paragraph 13, paragraphs 15, 21, subparagraphs "д" and "е" of paragraph 86, paragraphs 89, 91, 94
15. Decoders and decoder units of numerical code automatic block signalling	paragraphs 15, 22, 86, 89, 91
16. Diode earthing devices for overhead contact line equipment of electrified railways	paragraphs 15, 22, subparagraph "6" of paragraph 85, paragraphs 89, 91, 94
17. Insulators for overhead contact lines of electrified railways	paragraphs 15, 22, subparagraphs "6" – "г" of paragraph 85, paragraphs 89, 91
18. Clips for separate and non-separate rail fastenings	paragraph 12, subparagraphs "в" and "с" of paragraph 13, paragraphs 15, 22, subparagraph "а" of paragraph 84, paragraphs 89, 91, 94

19. Spring bar clips for rail fastening	paragraph 12, subparagraphs "в" and "г" of paragraph 13, paragraphs 15, 22, subparagraph "а" of paragraph 84, paragraphs 89, 91, 94
20. Sets of filter lenses and lenses, lens sets with lamp holder for railway lens-type signals	paragraphs 15, 22, 86, 89, 91, 94, 95
21. Turnout crossings	subparagraph "в" of paragraph 13, paragraph 15, subparagraphs "а" and "б" of paragraph 84, paragraphs 89, 91
22. Metal poles for supports of overhead contact lines of electrified railways	subparagraph "в" of paragraph 13, paragraphs 15, 22, subparagraphs "б" and "в" of paragraph 85, paragraphs 89, 91, 94
23. Fishplates for insulated joints of railway rails	paragraph 12, subparagraph "в" of paragraph 13, paragraphs 15, 22, 91, 94

24. Double-head rail fishplates for broad-gauge railways	paragraph 12, subparagraphs "B" and "C" of paragraph 13, paragraph 15, subparagraph "A" of paragraph 84, paragraphs 89, 91, 94
25. Switch blades of turnouts of various types and grades	subparagraph "B" of paragraph 13, paragraph 15, subparagraphs "A" and "6" of paragraph 84, paragraphs 89, 91
26. Baseplates for separate fastening of railway track	paragraph 12, subparagraph "B" of paragraph 13, paragraph 15, subparagraph "A" of paragraph 84, paragraphs 89, 91, 94
27. Reinforced concrete half-sleepers	subparagraph "B" of paragraph 13, paragraph 15, subparagraphs "A" and "6" of paragraph 84, paragraphs 89, 91
28. Contact wires of copper and its alloys for railway overhead contact lines	paragraph 12, subparagraphs "B" and "C" of paragraph 13, paragraph 15, subparagraph "B" of paragraph 85, paragraphs 89, 91

29. Railway transport software for automated systems for operational control of technological processes related to ensuring traffic safety and information security	paragraphs 15, 17, 22, subparagraphs "a" and "ж" of paragraph 86, paragraphs 89, 91, 94
30. Rail fastening pads	paragraph 12, subparagraph "в" of paragraph 13, paragraphs 15, 22, subparagraph "a" of paragraph 84, paragraphs 91, 94, 95
31. Spring rail anchors for railway rails	paragraph 12, subparagraph "в" of paragraph 13, paragraph 15, subparagraph "a" of paragraph 84, paragraphs 89, 91, 94
32. Disconnectors for traction substations of power supply systems of electrified railways	paragraphs 15, 22, subparagraphs "б" and "г" of paragraph 85, paragraphs 89, 91
33. Disconnectors for railway overhead contact lines	paragraphs 15, 22, subparagraphs "б" and "г" of paragraph 85, paragraphs 89, 91

34. Reactors for traction substations of power supply systems of electrified railways	paragraphs 15, 22, subparagraphs "б" – "г" of paragraph 85, paragraphs 89, 91
35. Fail-safe electromagnetic relays, including electronic ones, for railway automation and telemechanics systems, relay units	paragraphs 15, 22, 86, 89, 91
36. Rail fastening	subparagraph "б" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraph 91
37. Railway check rails	paragraph 12, subparagraphs "б" and "г" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraphs 89, 91
38. Railway switch-blade rails	paragraph 12, subparagraphs "б" and "г" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraphs 89, 91

39. Broad-gauge railway rails	paragraph 12, subparagraphs "в" and "г" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraphs 89, 91
40. Beams of rigid cross-spans of overhead contact line suspension devices of electrified railways	subparagraph "в" of paragraph 13, paragraphs 15, 22, subparagraphs "б" and "в" of paragraph 85, paragraphs 89, 91, 94
41. LED light-optical systems for railway signal and level-crossing signalling	subparagraph "в" of paragraph 13, paragraphs 15, 22, subparagraphs "а" and "д" of paragraph 86, paragraphs 89, 91, 94, 95
42. Light filters, lenses, light filter lenses, diffusers and deflecting inserts for railway signalling devices	paragraphs 15, 22, 86, 89, 91, 94, 95
43. Static converters for power supply devices of electrified railways	paragraphs 15, 22, subparagraphs "а", "б", "г" and "е" of paragraph 85, paragraphs 89, 91

44. Turnouts, repair kits (half-switches), diamond crossings of railway tracks	subparagraph "в" of paragraph 13, paragraph 15, subparagraphs "а", "б", "е" and "и" of paragraph 84, paragraphs 89, 91
45. Electromechanical switch machines	paragraphs 15, 22, subparagraphs "д" and "е" of paragraph 86, paragraphs 89, 91, 95
46. Insulated rail joints	paragraphs 12, 15, 22, subparagraph "а" of paragraph 84, paragraphs 91, 94
47. Elastic spring track elements (double-coil washers, disc springs, clips)	paragraph 12, subparagraph "в" of paragraph 13, paragraph 15, subparagraph "а" of paragraph 84, paragraphs 89, 91, 94
48. Protection devices for traction power junction stations of electrified railways	paragraphs 15, 22, 85, 89, 91

49. Foundations of overhead contact line supports of electrified railways	subparagraph "B" of paragraph 13, paragraphs 15, 22, subparagraphs "6" and "B" of paragraph 85, paragraphs 89, 91, 94
50. Reinforced concrete sleepers for 1 520 mm gauge railways	subparagraph "B" of paragraph 13, paragraph 15, subparagraphs "a" and "6" of paragraph 84, paragraphs 89, 91
51. Track screws	paragraph 12, subparagraph "B" of paragraph 13, paragraph 15, subparagraph "a" of paragraph 84, paragraphs 89, 91, 94
52. Natural stone crushed stone for the ballast layer of railways	subparagraph "B" of paragraph 13, paragraph 15, subparagraph "a" of paragraph 84, paragraph 91
53. Fastening elements of railway turnouts	subparagraph "B" of paragraph 13, paragraph 15, subparagraphs "a" and "6" of paragraph 84, paragraphs 89, 91

ANNEX No. 8
to the Technical Regulation
of the Customs Union
"On Safety of High-Speed
Railway Transport"
(TR CU 002/2011)
(as amended by Decision of the Council
of the Eurasian Economic Commission
of 14 September 2021 No. 90)

LIST

of provisions of the Technical Regulation of the Customs Union "On Safety of High-Speed Railway Transport" (TR CU 002/2011) applied in the certification of high-speed railway rolling stock

High-speed railway rolling stock	Designation of the paragraph (subparagraph) of the Technical Regulation
Direct current, alternating current and dual-system (direct and alternating current) electric trains, and their cars	paragraph 12, subparagraphs "a", "b" – "ц" of paragraph 13, paragraphs 15 – 17, 20, 28 – 31, 33 – 49, 50*, 51, 53, 55 – 82, 89, 90 and 94

* The indicator is checked if the equipment concerned is installed on the high-speed railway rolling stock.

ADOPTED
by Decision of the Commission
of the Customs Union
of 15 July 2011 No. 710
(as amended by Decision of the Council
of the Eurasian Economic Commission

of 14 September 2021 No. 90)

This document is provided by AC Inorms GmbH. It is a translation of the technical regulations of the Eurasian Economic Union generated using artificial intelligence. AC Inorms GmbH makes no warranty as to the accuracy, completeness, or timeliness of the translation.