DRAFT 12/05/2026

REGULATION

OF THE MINISTER FOR INFRASTRUCTURE[1)]

of 2026

on the technical conditions to be met by railway structures and their location[2)]

Pursuant to Article 7(2)(2) of the Act of 7 July 1994 - Construction Law (Journal of Laws of 2026, item 524 and 605) the following is decreed:

PART I

General provisions

§ 1. 1. The provisions of the Regulation shall apply to the design, construction and alteration of railway structures and their location.

2. The provisions of the Regulation do not apply to:

1) tramway lines;
2) railway tracks used for internal transport within an enclosed area, not connected to railway lines or sidings;
3) railways used for the intracompany transport of one or more neighbouring undertakings, including in mining areas - opencast mines, waste dumps, smelter facilities and coking plants, where the vehicles involved do not leave the undertaking's area or go exclusively to private infrastructure;
4) cableway and ropeway-terrain transport systems;
5) ski lifts;
6) railway tracks with a track gauge of less than 300 mm.

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1)The Minister for Infrastructure manages the government administration department for transport – pursuant to § 1(2)(3) of the Regulation of the Prime Minister on the specific scope of activities of the Minister for Infrastructure of 18 December 2023 (Journal of Laws, item 2725).

2)This Regulation was notified to the European Commission on … under number … pursuant to § 4 of the Cabinet Regulation of 23 December 2002 on the functioning of the national system for notification of standards and legal acts (Journal of Laws, item 2039; and Journal of Laws of 2004, item 597) which implements Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (codification) (OJ EU L 241, 17.9.2015, p. 1).

§ 2. For the purposes hereof, the following definitions shall apply:

1) railway structure – shall be understood to mean the entire technical and functional infrastructure, including the ground on which it is situated, as well as the installations and equipment, used for the movement of railway vehicles, the organisation and control of such movement, and enabling the transport of passengers or goods, in particular: standard-gauge, broad-gauge and narrow-gauge tracks, non-conventional railways, railway earthworks, bridges, viaducts, culverts, retaining structures, ramps, platforms, loading yards, level crossings between railway lines and public roads, underpasses and overpasses, access to platforms, electric traction power supply equipment, railway safety and traffic control equipment, non-traction power supply equipment and technical installations, as well as other structures located within the railway area used for the operation of railway traffic and the maintenance of railway lines;
2) the structural length of the track – shall be understood to mean the length of the railway track measured between the beginnings or ends of turnouts, where the beginnings or ends of the turnouts face each other, or the length of the railway track measured between the beginning of the turnout and the face of the buffer beam of the buffer stop, excluding the length of intermediate turnouts located on the railway track;
3) total track length – shall be understood to mean the total structural length of the railway track, including the length of turnouts and buffer stops;
4) useful track length – shall be understood to mean the length of the railway track intended for the stopping of a train or railway vehicle, i.e.:
   a) the distance measured between the position of a semaphore signal, a stop or shunting disc, or an ETCS W 10 indicator, and the clearance point, the end of the isolated section, the train speed reduction point, the location of the derailer, the level crossing or the platform access at rail level, if these are in use whilst the train or railway vehicle is stationary,
   b) the distance between clearance points, if no semaphore signal, barrier or shunting signal, or an ETCS W 10 indicator, has been installed alongside the railway track;
5) platform access at rail level – shall be understood to mean a passageway at track level within a railway station or passenger stop that enables passengers to reach the platform;

6) railway road – shall be understood to mean a railway road within the meaning of Article 4(1a) of the Rail Transport Act of 28 March 2003 (Journal of Laws 2025, item 1234; and 2026, item 41);

7) technological duct – this refers to a series of protective housing components, cable manholes and other structures or equipment used for the installation or operation of:

   a) technical infrastructure equipment related to rail traffic management,

   b) technical infrastructure equipment not related to rail traffic management;

8) guideway – shall be understood to mean a structure designed to carry on a trackbed or an engineering structure fixed and mobile loads associated with the movement of railway vehicles, consisting of the railway track on which the railway vehicles run, supporting elements, fastening and connecting elements and ballast;

9) clearance – shall be understood to mean the smallest vertical distance between the structure and the surface of the subgrade;

10) disabled person and person with reduced mobility — shall be understood to mean the person referred to in Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility. (OJ EU L 356, 12.12.2014, p. 110, as amended[1)]), hereinafter referred to as 'TSI PRM';

11) person with special needs – shall be understood to mean the person with special needs within the meaning of Article 2(3) of the Act of 19 July 2019 on ensuring accessibility for persons with special needs (Journal of Laws of 2024, item 1411);

12) technical, operational or technical-operational parameters – shall be understood to mean the parameters established by the infrastructure manager for a given railway line, specifying: the maximum permissible operating speed of railway vehicles, the maximum permissible axle loads of railway vehicles on the track, the traffic load expressed in gross gigagrams per year [Gg/year] or gross teragrams per year [Tg/year], and the gauge of the railway structure;

13) track substructure – shall be understood to mean the track substructure referred to in point 3 of Annex 1 to the Rail Transport Act of 28 March 2003;

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[1])Amendments to the aforementioned Regulation were published in the Official Journal of the EU L 139I of 27 May 2019, p. 1, the Official Journal of the EU L 134 of 11 May 2022, p. 14, the Official Journal of the EU L 204 of 4 August 2022, p. 28, the Official Journal of the EU L 5 of 6 January 2023, p. 31, the Official Journal of the EU L 222 of 8 September 2023, p. 88, and the Official Journal of the EU L 2024/90812 of 23 December 2024.

14) track cant – understood as the elevation of the outer rail relative to the inner rail on a curved section of track, in order to counteract the centrifugal force that arises when a railway vehicle travels along a curved section of track;
15) structure gauge – is understood to mean the free space determined by a line marking the minimum distances between a railway vehicle and railway infrastructure facilities and equipment, necessary to ensure the safe and collision-free movement of railway vehicles;
16) electric traction power supply system – understood as the electric traction power supply system referred to in Article 25f(1)(2) of the Rail Transport Act of 28 March 2003;
17) subgrade – shall be understood to mean the upper surface of the track substructure on which the guideway is laid;
18) clearance point – shall be understood as the place at the junction of railway tracks marked with an indicator to which the track can be occupied by rolling stock without disturbing traffic on the connecting tracks;
19) surface course (base course) – understood as elements directly associated with the earthworks, constituting its load-bearing (upper) layers, for which specific requirements have been defined regarding the improvement of force distribution and changes in stiffness, the improvement of filtration conditions, protection against water, erosion and frost, the drainage of rainwater, or the improvement of dynamic parameters.

§ 3. For the purposes of determining technical requirements, railway structures are classified as follows:

1) railway track structures, comprising:
   a) railway tracks, in which the structural element upon which a railway vehicle travels consists of two steel rails laid parallel on a base course,
   b) railway engineering structures;
2) ancillary railway structures, comprising:
   a) electric traction power supply equipment,
   b) structures and equipment related to the transport of passengers or goods,
   c) technical support structures for rolling stock and railway tracks,
   d) rail traffic signalling structures and equipment,
   e) telecommunications structures and equipment,

f) non-traction power supply equipment and technical networks;

3) non-conventional railways.

PART II

Technical specifications of railway lines

Chapter 1

The location of railway lines and railway structures

§ 4. 1. Railway lines shall be situated in such a way as to ensure:

1) good access to railway buildings, railway structures as well as structures and equipment related to the transport of passengers or goods;

2) minimisation of the extent of earthworks required and the number of railway engineering structures;

3) the required operational parameters, including:

a) maximum speed of railway vehicles [km/h],

b) load class determined in accordance with Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability of the 'Infrastructure' subsystem of the rail system in the European Union (OJ L 356, 12.12.2014, p. 1, as amended)[1)] hereinafter referred to as the 'Infrastructure TSI', with regard to the interactions between the limit loads of rail vehicles and the infrastructure,

c) structure gauge [mm],

d) traffic load [Gg/year] or [Tg/year];

4) energy savings for traction purposes.

2. The location of traffic stations along a railway line shall ensure that the journey time of railway vehicles between these stations is as equal as possible, based on the anticipated line load, taking into account, on a two-track railway line, the periodic closures of sections of the line for the movement of trains in order to carry out works related to the maintenance and reconstruction of the railway line.

[1)] Amendments to this Regulation were published in OJ L 228, 2.9.2015, p. 15, OJ L 139I, 27.5.2019, p. 108 and OJ L 222, 8.9.2023, p. 88.

3. When determining the route of a new or upgraded railway line, account shall be taken of the operational parameters resulting from current rail transport needs in the area concerned, as well as the anticipated importance of the line in question for rail transport.

4. When designing, constructing or reconstructing railway infrastructure, account shall be taken of the risks associated with climate change, including risks arising from vulnerability to climate change.

§ 5. The boundary of the adjacent strip of land shall be marked on the ground by fixed points (boundary markers), which shall be positioned at a distance that ensures the proper functioning of railway traffic control equipment and the safety of railway traffic.

§ 6. 1. The railway line shall be equipped with technical facilities that ensure compliance with the operational parameters referred to in § 4(1)(3).

2. The technical equipment of the railway line comprises structural elements of the railway guideway, substructure, railway engineering structures and buildings or installations, in particular:

1) rail traffic signalling system;
2) those related to the carriage of passengers or goods;
3) technical facilities for rolling stock;
4) electric traction power supply;
5) telecommunications;
6) electricity supply;
7) technical networks;
8) associated with the intersection of a railway line and a railway siding with a road on a single level;
9) providing technical protection in the event of breakdowns and emergencies.

3. The structures and equipment referred to in paragraph 2 shall be located in the railway area in such a way that:

1) do not present any hazards, risks or obstacles relating to the operation of transport services;
2) do not conflict with one another;
3) allow repairs to be carried out without the need to switch off other devices;
4) do not obstruct the view of the railway track in areas designated for public use;

5) do not interfere with the proper functioning of other devices;
6) do not restrict the required visibility at level crossings within the sight visibility triangles.

Chapter 2

Structure gauge

§ 7. 1. No permanent part of a structure or equipment may be located within the structure gauge, with the exception of the railway track and equipment intended to interact directly with a railway vehicle, including traffic signalling systems, overhead contact line equipment or telecommunications equipment, subject to § 108(2).

2. The structure gauge on standard-gauge railway lines complies with the requirements of the Infrastructure TSI and the regulations of the International Union of Railways, hereinafter referred to as 'UIC'.

Chapter 3

Rail traffic safety

§ 8. 1. In order to ensure the safe operation of railway lines and the safe movement of railway vehicles, railway lines shall be equipped with safety devices to prevent:
1) one railway vehicle colliding with another railway vehicle standing or moving on the same track;
2) a railway vehicle crossing uncontrollably from one track onto another track on which a railway vehicle is present;
3) a railway vehicle entering a section of track at a speed exceeding the speed limit for that section of track;
4) a railway vehicle colliding with a road vehicle at a level crossing;
5) the entry into service of unserviceable railway vehicles or railway vehicles whose axle loads on the railway track exceed the permissible values.

2. Railway lines shall be equipped with railway signalling devices and components that transmit signals and convey orders, instructions and information to railway vehicle drivers, as well as with communication equipment between signal boxes.

PART III

Railway structures on standard gauge railway lines

Chapter 1

General provisions

§ 9. 1. A standard-gauge railway is a railway on which the nominal distance between the heads of the two rails is 1,435 mm, measured 14 mm below the top running surface of the rails.

2. A railway station is a railway structure comprising a track layout connected by points, together with railway traffic signalling and communication equipment, in which there is at least one secondary main track alongside the primary main track, and where railway vehicles and trains may start, end, cross, overtake, change formation or change direction.

3. At junctions between railway lines with different track gauges, connecting stations shall be provided:

1) for transhipment or interchange;
2) for shunting – equipped with bogie-changing devices or devices for changing the wheelbase of bogies.

§ 10. When assessing the structural integrity of railway structures, operational load models complying with the Infrastructure TSI shall be used with regard to the interactions between the limit loads of railway vehicles and the infrastructure.

§ 11. The Infrastructure TSI compliant design load models shall be multiplied by the load classification factor [α]. The value of the load classification factor [α] shall be equal to 1,21.

Chapter 2

Substructure and railway earthworks

§ 12. 1. Substructure is a structure consisting of the railway earthworks and the surface course (base course).

2. The railway earthworks and covering course (base course) shall be designed in such a way as to enable:

1) the construction of guideway and other construction works relating to the operation of railway vehicles, and the performance of activities related to the maintenance of the railway;
2) the drainage of rainwater;
3) maintaining ground water levels at an appropriate depth.

3. Depending on the relationship between the topography and the elevation of the railway track, the track substructure is constructed either as an embankment or as a cutting, using soil that has been suitably shaped, reinforced and protected against operational, climatic and geological-hydrological influences.

4. The track substructure shall be designed to ensure:

1) the strength required for a given category of railway line;
2) permanent and elastic deformations resulting from dynamic loads that are less than the permissible limits;
3) subgrade dimensions corresponding to the category of railway line concerned;
4) the invariability of the shape regardless of the risk associated with climate change, including risks arising from vulnerability to climate change, and operational impacts;
5) the possibility of mechanisation of works during construction, operation and maintenance, including traction, teletechnical and surface works.

§ 13. 1. It shall not be permitted to make structural changes to the substructure directly underneath the guideway that result in sudden changes in the shaer modulus.

2. On station plains, the structure of the covering course (base course) shall be designed uniformly for entire track groups.

§ 14. 1. The dimensions of the railway earthworks and the covering course (base course) shall be adapted to the established alignment of the railway line, taking particular account of:

1) the category of the railway line;
2) the number of railway tracks;
3) the location of the substructure (along the track, at station level, on approaches to bridges);
4) the position of the railway line in the plan and in the profile;

5) the thickness of the ballast layer, the length of the sleepers, the type of railway track (conventional, continuous-welded).

2. When establishing the cross-section of the substructure and the guideway (normal cross-sections) for the category of railway line:

1) the subgrade surface shall be designed with a lateral inclination of between 3 % and 5 % from the centreline of the railway track, to ensure water drainage from the guideway;
2) between the lower edge of the guideway structure and the edge of the subgrade track benches are situated, the width of which depends on the railway line category – for carrying out maintenance work on the railway line;
3) the slope of the railway earthworks shall be designed in accordance with the load-bearing capacity analysis carried out and the assessment of the stability of the entire track substructure in the short and long term; the recommended slope of the railway earthworks is 1:2;
4) depending on the topography, to drain water into natural watercourses, sewers or water facilities, single-sided or double-sided side ditches and other drainage facilities and systems are designed along the substructure; the cross-section of which shall be adapted to the maximum volume of water that may occur, and the longitudinal gradient shall ensure free water flow; in other cases, forced water flow shall be provided.

3. The transition between cross-sections of track substructures of different dimensions shall be carried out gradually over a length of not less than 5 m.

§ 15. 1. The structure of a railway earthwork, understood as a layer or a set of layers, shall be designed and constructed in such a way that it can withstand all anticipated loads, actions and effects that may occur during construction and, at the very least, throughout its service life, provided that permissible speeds and pressures are not exceeded.

2. The requirements referred to in paragraph 1 shall be deemed to have been complied with if:

1) the conditions are met to ensure that the load-bearing-capacity and service-capacity limit values are not exceeded in the railway earthworks structure and in each of its components;
2) the construction materials and products used are placed on the market.

§ 16. 1. Where it is technically impossible to design the foundations of a railway earthwork structure to limit settlement to 5 cm, greater values are permitted provided that the

gradient of the railway earthwork structure does not exceed 1:1000 and solutions are designed to limit the adverse impact of ground settlement on the operation of the railway line. Settlement within 20 m of the axis of the abutment support of the railway engineering structure shall not exceed 20 mm, and the gradient of the railway earthwork within the transition zone shall not exceed 1:1000.

2. The design process for a railway earthwork shall include verification of all limit states relevant to this type of structure and its subgrade, the exceeding of which may result in the railway earthwork becoming inoperable due to its destruction, deformation, displacement or vibration.

3. Railway earthworks and retaining structures serving as supporting or protective structures for embankments shall be drained.

4. The decision on the type of construction works in the track substructure shall be made on the basis of an assessment of the technical condition of the substructure.

Chapter 3

Technical infrastructure in the railway area not linked to the railway line

§ 17. 1. The placing of technical infrastructure equipment not related to the railway line within the railway area shall not damage the guideway or substructure of the railway line, nor shall it endanger railway traffic safety or reduce the utility value of the railway line.

2. The technical infrastructure, together with its supporting structures, comprises:

1) power lines and telecommunications lines;
2) sewer pipes not used for drainage, gas pipes, sanitary pipes, district heating pipes and water mains;
3) water management facilities and drainage facilities;
4) special-purpose underground installations;
5) environmental protection installations.

3. Technical infrastructure shall be located outside the track substructure at a depth that prevents damage to parts of the guideway, equipment, railway earthworks, railway engineering structures or a reduction in their stability.

4. Technical infrastructure shall not reduce the stability and load-bearing capacity of the substructure and the guideway, nor of existing equipment and elements related to railway operations.

5. Linear technical infrastructure running transversely over a railway line shall not infringe upon its structural gauge.

6. The technical infrastructure crossing the railway line or located along the railway line shall be designed in a way that does not limit the possibility of reconstructing elements of the railway line.

7. Underground linear technical infrastructure running alongside the railway line shall be situated in utility ducts exclusively outside the track substructure, at a distance of at least 5 metres from the centreline of the outermost railway track.

8. A utility duct does not encroach on the required clearance below the planned track gradient and does not restrict the possibility of upgrading the railway line; furthermore, its location takes into account the planned and final implementation of the railway line.

9. The foundation of the utility duct shall not impair the conditions for the installation of railway traffic control and drainage systems, shall not restrict the clearance of culverts and ditches, and shall not cause any hindrance to the performance of activities related to the maintenance of the railway line and railway engineering structures.

10. Where a railway structure is situated in the immediate vicinity of a gas network with a maximum operating pressure (MOP) of 0.5 MPa or less, or crosses such a network, the gas network shall be fitted with a shut-off valve at the boundary of the railway area, enabling the gas supply to be shut off in the event of a failure of the network or of gas appliances connected to that network.

11. Where a railway structure is located in the immediate vicinity of a gas network with a maximum operating pressure (MOP) exceeding 0.5 MPa, or crosses such a gas network, that network must be capable of shutting off the gas supply in the event of a failure of the network or of gas appliances connected to it.

12. The provision of paragraph 7 shall not apply to gas transmission pipelines.

Chapter 4

Guideway

§ 18. 1. The guideway design standard shall be adapted to the required operational parameters of the railway line and to the UIC regulations.

2. The guideway design standard shall be determined by the requirements regarding rail profiles, types and classes of sleepers, types of fastenings, joints and ballast, approved for use on railway tracks of a specific technical class. It is permissible to use several equivalent guideway design standards within a single technical class of railway tracks, depending on the type of components used.

3. A railway track is upgraded to a higher technical class after it has been adapted to the guideway design standard specified for that technical class of railway track. A railway track is downgraded to a lower technical class if it fails to meet the requirements of the guideway design standards, resulting in a corresponding change to the operational parameters of the railway line.

§ 19. 1. A conventional railway track is a structure in which rails of standard length are permanently joined together by fishplates and secured to sleepers. The length of a straight track section depends on the technical class of the track, but must not be shorter than 6 m.

2. The construction of the joint makes it possible to change the length of the rails under the influence of temperature. The required clearances at rail joints during track laying or adjustment are specified in Table 3.1. These clearances are selected taking into account the guideway and fishplate joint designs used, as well as the need to allow for the connection of conventional track to continuous welded track.

Table 3.1. Required clearance values at rail joints during the laying or adjustment of railway tracks

Rail temperature [°C]	Rail lengths [m]					
	6	12	15	18	25	30 and more
	Clearance values at rail joints [mm]					
-10 and below	3	7	9	10	14	17
-9.9 to -6	3	6	8	9	13	16
-5.9 to 0	3	6	7	9	12	14
0.1 to 5.9	3	5	6	8	11	12
6 to 10.9	2	4	6	7	9	10
11 to 15.9	2	4	5	6	8	8
16 to 20.9	2	3	4	5	6	6
21 to 25.9	1	3	3	4	4	4
26 to 30.9	1	2	2	2	2	2
31 to 35.9	1	1	1	1	1	1
36 and more	0	0	0	0	0	0

3. Rail joints in straight track shall be located on perpendicular to the track axis and in curved track along the radius of the curve. Deviations in the position of rail joints shall not exceed 20 mm in straight track and half the value of rail shortening in curved track.

4. In order to compensate for the differences in the length of the rails of both tracks in the rail track in the curve, shortened rails shall be laid in the internal course of the curve.

5. The joining of rails with profiles 60E1 (UIC 60) and 49E1 (S 49) shall be carried out by means of transition rails or transition welds. For the joining of other rail profiles and when carrying out works related to the replacement of the guideway, the use of transition plates is permitted.

6. It is possible to change the type of sleepers and ballast on the railway track at a distance of no less than 6 metres from the rail joint.

§ 20. 1. A continuous welded track is a structure in which adjacent rails are permanently joined together by means of electrofusion, thermite welding or arc welding.

2. The length of a continuous welded track section is unlimited. Track sections with welded rails longer than 180 m are considered to be continuous welded track.

3. Continuous welded track is used in all technical classes of railway track, subject to the following technical requirements:

1) the smallest radius of the horizontal curve of the track shall be:
   a) on primary main and secondary main tracks of all categories of railway lines – 500 m on wooden sleepers and 450 m on concrete sleepers,
   b) on all station tracks - 300 m;
2) continuous welded track shall not begin or end on a transition curve;
3) continuous welded track shall not be laid in areas where the substructure is prone to permanent deformation, and in particular on landslides, subsidence areas or in areas affected by mining damage;
4) rails shall only be fastened to sleepers at a temperature measured in the rail and ranging from +15°C to +30°C (neutral temperature).

4. On curves with a radius of not less than 190 m, the requirements referred to in paragraph 3(1) and (4) shall not apply, and continuous welded rail shall be used where stresses in the rail heads corresponding to a fastening temperature (23±3) ºC and the

simultaneous application of solutions increasing the stability of the continuous welded track or the reliability of its operation.

5. The guideway of continuous welded tracks and turnouts shall consist of:

1) rails meeting at least the requirements of the TSI Infrastructure;
2) elastic or indirect fastenings;
3) sleepers and switch sleepers;
4) crushed stone ballast made of natural rock, with a prism crown width behind the sleeper faces of not less than 0.40 m.

6. In the case of ballastless track, only continuous welded rail shall be used, regardless of the curve radius, and a reduction in the track gauge referred to in § 22(2) is permitted.

§ 21. 1. The rails in the vertical plane shall be placed in an inclination directed to the axis of the railway track with the following values:

1) 1:40 – on tracks laid on concrete and wooden sleepers with 60E1 (UIC 60) profile rails, and on tracks with rails with 49E1 (S 49) profile on concrete sleepers;
2) 1:20 – on tracks on wooden sleepers with 49E1 (S 49) profile rails.

2. The transition from rails laid vertically at the turnout to rails laid at an angle on the main track shall be carried out gradually in the track sections before and after the turnout, whereby:

1) for a gradient of 1:20 – the transition is achieved using transition plates with a gradient of 1:40 laid at the locations specified in the technical documentation for the turnout;
2) no change in rail gradient is made at joints along the length of the rail heads or at rail welding points;
3) transition from inclination 1:40 to $1:\infty$ is achieved using turnout transition pads at the points indicated in the technical documentation of the turnout.

3. If the length of a section of rail track between the turnouts does not exceed 30 m, the rails on this section shall be laid without a transverse gradient on the turnout pads. This does not apply to sections of railway track which are located between turnouts with a rail inclination.

4. On railway tracks on which trains or other railway vehicles travel at a speed of no more than 60 km/h it is permissible not to apply the transverse inclination of the rails.

§ 22. 1. The nominal track gauge on a straight section and on a curve with a radius of 250 m or more, measured 14 mm below the top of the rail head, is 1 435 mm.

2. On curves with a radius of less than 250 m, the nominal track gauge is increased by the track widening value by moving the inner rail towards the centre of the curve. The track widening values for curves are specified in Table 3.2.

Table 3.2. Values of the widening of the railway track in the curve

Curve radius R [m]	Track widening [mm]
$R \geq 250$	0
$200 \leq R < 250$	10
$180 \leq R < 200$	15
$160 \leq R < 180$	20
$R < 160$	25

3. The transition from the standard track gauge to the wider track gauge in a curve is carried out gradually on a transition curve; if no such curve is available, the transition is carried out on a straight section adjacent to the curve.

4. If two curves with different track widening are connected by a transition curve, the transition from one widening to the other shall be carried out over the length of the transition curve.

5. If two curves with the same direction of curvature but different track widenings meet to form a basket curve, the required widening for the curve with the smaller radius is maintained along its entire length, and the transition to the smaller widening value is carried out on the curve with the larger radius.

§ 23. 1. Turnouts and crossings of railway tracks shall correspond to the types of rails lying on the railway tracks and the design standards of the guideway for the different technical classes of railway tracks.

2. When arranging turnouts, the following conditions shall be maintained:

1) on primary main tracks, turnouts with slopes of 1:7.5, 1:7, 1:6.6 and 1:4.8 shall not be used;
2) on railway sidings, the use of turnouts with a radius of 140 m and slopes of 1:7 and 1:5 is permitted;
3) curved turnouts may be used:

a) when the terrain conditions in the proposed track layout prevent the use of a standard turnout, or

b) to achieve a higher speed than in a track layout using standard turnouts, or

c) to limit the extent of railway subgrade reconstruction, or

d) for the purpose of installing a turnout on a railway track located on a curve;

4) when using turnouts with curved crossings laid end-to-end in the junctions of parallel railway tracks, straight track sections of at least 6 m in length shall be used, calculated using the formula:

$$l = \frac{v}{10}$$

where:

l – denotes the length of a straight track section [m],

v – denotes the speed of trains in the reverse direction [km/h];

5) at track junctions with turnouts, the rate of unbalanced acceleration (ψ) does not exceed 1 m/s^3;

6) the existing difference in track gauge between the curve and the start of the turnout shall be accommodated in the track adjacent to the turnout;

7) on station sidings, it is possible to install turnouts with a widening at the pre-point junction behind the end of the preceding turnout, provided that the transition from the increased to the normal gauge is made at the end of the preceding turnout.

3. Turnouts are laid on wooden, composite, steel or concrete switch sleepers. On railway tracks where trains run at speeds of 100 km/h or more, hardwood or concrete switch sleepers shall be used.

4. When laying turnouts, the types and thicknesses of ballast layers specified in the track structure standards for the technical classes of the railway tracks on which the turnouts are located shall be used.

5. Turnouts may be joined to one another and to the railway track using fishplates or welded joints. Welded turnouts shall be used on continuous welded rail tracks.

6. On primary main and secondary main railway tracks at railway stations, and on through tracks of railway lines on which trains run at speeds of 100 km/h or more, turnouts with rail creep-insensitive point mechanisms shall be used. On other railway tracks, if rail creep occurs, anti-creep devices shall be used before and after the turnout. In turnouts with a

1:9 gradient and a radius of 300 m on primary main and secondary main tracks on railway lines, point stabilising devices shall additionally be used when replacing turnouts.

§ 24. 1. On railway tracks located on curves with a radius of 250 m or less, guide rails made of rails or steel sections are laid alongside the inner rail. The guide rails shall be laid on the railway track under the following conditions:

1) the width of the groove between the guide surface of the guide rail and the side surface of the inner rail head is 60 mm, with permissible deviations of +5 mm and -3 mm;
2) The guide rails are laid along the entire length of the curve, including the transition curves, and extended by at least 2 m onto the adjacent track sections;
3) the ends of the guide rails on both sides, for a length of 0.30 m, shall bend at an angle of 30° towards the centre of the track;
4) on tracks located on curves with a radius of $160 \leq R \leq 250$ m, the distance between the leading edge of the guide rail and the side edge of the running rail of the outer track is, respectively:
   a) 1 385 mm – for a track gauge of 1 445 mm,
   b) 1 390 mm – for a track gauge of 1 450 mm,
   c) 1 395 mm – for a track gauge of 1 455 mm.

2. In the case of curves with a circular section length of no more than 50 m on conventional track, or where continuous welded track is used, the use of guide rails is permitted only on curves with a radius of less than 190 m.

§ 25. 1. The guideway within a level crossing shall comply with the same specifications as the railway track adjacent to the level crossing.

2. Within the width of the level crossing and within a distance of 6 m on either side thereof, it is prohibited to:

1) change the type of sleepers and ballast on the railway track, or lay wooden sleepers within the level crossing, if the track outside the level crossing is laid on concrete sleepers;
2) the use of splice bars for rails and buffer stops; the use of rail joints permanently joined by electrofusion, thermite welding or arc welding is permitted.

§ 26. 1. On electrified railway lines with conventional contacts, rail connectors are used to ensure the flow of traction current in the rail tracks. The method of fastening rail

connectors to rails ensures the durability of the connection during operation and the possibility of carrying out works on the railway tracks using track machinery. Rail connector cables shall be isolated from sleepers and ballast.

2. Railway tracks of non-electrified railway lines shall be isolated from electrified tracks in accordance with the conditions laid down in Commission Regulation (EU) No 1301/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'Energy' subsystem of the rail system in the Union (OJ L 356, 12.12.2014, p. 179, as amended[1)]).

3. Wires and cables from railway traffic signalling equipment and from return circuit traction equipment shall be connected to the rails by means of pins pressed or screwed into the neutral axis of the rail, and wires between the rail heads shall be laid on the sleepers. It is prohibited to attach wires or cables to the rail foot or neck by welding, brazing or heat-sealing.

4. Where it is necessary to incorporate an isolated section into the railway track that interfaces with the traffic signalling system, the track structure on that section must provide the impedance required by the traffic control system.

§ 27. 1. At the end of a railway track that is not connected to another track, a buffer stop is installed, which is designed to accommodate the type of rolling stock stopping on the track in front of the buffer stop.

2. The following types of buffer stops may be used on a railway track:

1) steel rail buffer stops or ones made of sections;
2) concrete buffer stops;
3) self-braking buffer stops;
4) earth buffer stops.

3. The track surface of protective ribs and other railway tracks which, due to their intended use, terminate in a buffer stop, shall be of the same type and construction as that of the track in front of the protective rib or buffer stop, although the use of lighter types of guideway is permitted.

4. Railway tracks located on the extension of main railway tracks and terminated by a buffer stop shall be ballasted with gravel to a height of 100 mm above the rail head over a

[1)] Amendments to this Regulation were published in OJ EU L 13, 20.1.2015, p. 13, OJ EU L 149, 14.6.2018, p. 16, OJ EU L 127, 16.5.2019, p. 80, OJ EU L 139I, 27.5.2019, p. 108, and OJ EU L 222, 8.9.2023, p. 88.

length of at least 30 m before the buffer stop at entry smepahore signals and over a distance of 15 m at exit signals. Where a protective rib or railway track runs towards a cliff, river or other permanent obstacle, the distance between the buffer stop and the cliff, river or other permanent obstacle shall be at least 100 m, and the track shall be ballasted to a height of between 150 mm and 300 mm above the rail head over a length of at least 30 m in front of the buffer stop.

5. If, due to terrain conditions, the distances specified in paragraph 4 cannot be achieved, it is permissible to reduce the distance between the buffer stop and the cliff, a river or other permanent obstacle to 50 m, provided that the area behind the retaining wall is covered with a horizontal layer of gravel at least 500 mm thick over a length of not less than 30 m.

6. The requirements referred to in paragraphs 4 and 5 shall not apply to the buffer stops referred to in paragraph 2(2) and (3).

7. The requirements referred to in paragraphs 4 to 6 shall not apply in the case of railway sidings on which the permissible speed of railway vehicles is less than or equal to 25 km/h.

Chapter 5

Distance between railway tracks

§ 28. 1. The distances between the centres of the railway tracks are determined by the speed on the railway line, the purpose of the tracks and the use of the space between the tracks.

2. The distance between the tracks on a double-track railway line shall be no less than 4 m.

Chapter 6

The geometric layout of railway tracks

§ 29. 1. The geometric layout of a railway track is defined by the track's position in curves:

1) horizontal curves with a constant radius;
2) horizontal curves with a variable radius (transition curve);
3) in the vertical plane.

2. When designing the geometric layout of railway tracks and their connections in the horizontal and vertical planes, the calculation rules and permissible parameter values set out in the Infrastructure TSI shall be applied, whereby:

1) with regard to the geometric system in the horizontal plane, the method of changing cant deficiency and sudden change of cant deficiency should be used;
2) the specific parameter values shall be agreed with the infrastructure manager.

3. In the case referred to in paragraph 2, the provisions of Paragraph 23(2)(3) to (5) shall not apply.

Chapter 7

Designing the track layout of a railway station

§ 30. 1. The track layout of a railway station, comprising the number of tracks and their connections, ensures the smooth operation of trains or rail vehicles used for the carriage of passengers or goods.

2. A railway station where several lines with the same track gauge intersect has a main track layout (directional or linear) that allows trains to travel from any railway line to any other line.

§ 31. 1. The number of primary main tracks at a railway station shall be at least equal to the number of through tracks leading into that station.

2. The number of secondary main tracks shall be determined by the volume of rail traffic and the likelihood of a train being held up before the station due to all main tracks being occupied.

3. The layout of tracks and switch roads at a railway station shall protect crossings on the primary tracks by means of protective ribs or turnouts, derailers or other protective measures approved by the infrastructure manager, selected in accordance with the level of risk present.

§ 32. 1. The track layout of a railway station, including the division of the layout into tracks and turnouts, shall ensure:

1) the possibility of collision-free reception of trains on arrival tracks from all railway lines entering the station;

2) the efficient organisation of shunting operations by designating railway tracks or groups of tracks for arrival, directional, departure and transit traffic, as well as haulage tracks, and connecting them via connecting tracks in such a way as to enable simultaneous, collision-free shunting operations in different parts of the railway station, as well as integration with other technical facilities at the railway station, including: locomotive depots, carriage depots, storage yards, sidings, staging areas for railway technical rescue teams, railway snow-clearing vehicles, and technical emergency services for the repair of faults in the railway infrastructure;
3) collision-free shunting and formation of trains;
4) carrying out routine repairs to wagons;
5) the ability to correctly implement interlocking in railway traffic signalling systems.

2. Inter-track spaces separating individual track groups shall be widened to allow for the construction of footpaths or station service roads on them.

3. The switch tracks of each track group have turnouts of the same type.

4. The use of different level crossings of railway tracks within the marshalling yard is justified by the load on critical points resulting from the technological process of the railway station.

§ 33. 1. The switch tracks and railway tracks connecting station primary main tracks and through tracks have the same construction standard as through track guideway. The radius of turnouts shall allow passage through the turnout in the reverse direction at the speed specified in the technical and operational conditions established for the railway station in question.

2. The construction standard for the guideway of station sidings, on which shunting of wagon trains or the stabling of wagons takes place, corresponds to the standard specified for that class of railway track.

3. When determining the length of station railway tracks, the following lengths shall be taken into account:
1) the track's construction length;
2) the track's usable length;
3) the track's total length.

4. Track layouts shall ensure the required usable length of railway tracks, which, for:

1) primary main lines – is greater than the length of the longest freight train, plus length allowances specified by the infrastructure manager; where main lines are intended solely for passenger trains, their length is determined by the maximum number of carriages in a passenger train, plus the length of two locomotives;
2) station sidings – depends on the number of wagons intended to be stabled there, taking into account a reserve resulting from the shunting method (an increase of 50 % to the length resulting from the number of wagons);
3) loading tracks – depends on the number of wagons presented at any one time for loading or unloading;
4) haulage tracks – depends on the length of the longest shunting train;
5) connecting or access tracks where a shunting train may stop – is longer than the longest shunting train or train passing through the connecting track.

5. The distances between the centres of the railway tracks are determined by the speed on the railway line, the purpose of the tracks and the use of the space between the tracks.

6. Primary, secondary and siding tracks within the station shall be straight along their usable length, provided that the topography and accessibility of the site, as well as the scope of the project, permit this.

7. The number and type of turnouts arranged on the station tracks ensures that all train and shunting runs required by the railway station technological process can be carried out.

§ 34. 1. Track groups designated for shunting operations forming part of a railway station's operational process are connected by connecting tracks on which only shunting movements may take place.

2. The layout of the connecting tracks shall ensure connections between groups of tracks in a manner that minimises the number of changes of direction during the shunting of groups of wagons. If a change of direction is necessary, the connecting tracks shall be connected to the haulage tracks. Connecting tracks do not intersect with the main railway tracks.

3. For the purpose of securing the passage of a train through a railway station, the primary main tracks on the side where shunting is possible or where loose wagons are located shall be protected by protective ribs. Where it is not possible to install protective ribs, the use of alternative technical devices to protect the passing train from being struck from the side is

permitted. The functions of the protection rib may be fulfilled by a track layout with turnouts, the position of which prevents entry onto the track on which the train is travelling.

Chapter 8

Drainage equipment and systems for railway lines and railway stations

§ 35. 1. Surface water and groundwater from the railway area is collected and managed using equipment and systems, and discharged into natural or artificial water bodies.

2. Surface drainage equipment shall be designed taking into account the intensity of rainfall based on the results of studies and analyses, the technical feasibility of construction and maintenance, environmental impact, the effect on the water regime of the area in question, and architectural constraints.

3. Systems and equipment for the drainage of railway structures and other railway equipment shall be designed in such a way as to:

1) allow water to drain away quickly without altering the general direction of flow and without significantly affecting the flow rate of surface and groundwater;
2) not contribute to the weakening of the stability of railway structures situated on the drained site and in its vicinity;
3) prevent the effects of destructive factors;
4) prevent pollution of surface water, groundwater and soil;
5) comply with the conditions applicable to the water protection zones established pursuant to Article 135(1) of the Act of 20 July 2017 – Water Law (Journal of Laws of 2025, items 960 and 1535, and of 2026, items 445 and 605), in spa areas referred to in Article 2(3) of the Act of 28 July 2005 on spa treatment, spas and spa protection areas, and on spa municipalities (Journal of Laws of 2025, items 1135) and in areas subject to forms of nature conservation referred to in Article 6(1) of the Act of 16 April 2004 on nature conservation (Journal of Laws of 2026, items 13 and 426);
6) do not impede the operation and maintenance of the railway line and its equipment.

4. The systems and equipment referred to in paragraph 3 are divided into:

1) surface-level;
2) underground.

§ 36. 1. The systems and equipment referred to in Section 35(3) shall be designed:

1) along the railway tracks;
2) at railway stations – as a network of underground and surface drainage installations for the station plains.

2. In areas sloping towards the cuttings, where there is a risk of flooding of the railway tracks, landslides and slope erosion, upper ditches shall be designed at a distance of between 3 m and 5 m from the edge of the cutting. The longitudinal slopes of the ditch bottoms and the ditch slopes shall be protected against scouring caused by the limit water flow velocity being exceeded and uncontrolled water accumulation. The limit water flow velocity depends on the type of ditch reinforcement used.

3. Station plains located on impermeable soils are drained by longitudinal drainage situated in the inter-track spaces and by transverse drainage, connected into a drainage network. The conditions for the design of the drainage network for station plains are determined for each railway station, taking into account the groundwater level, the topography, the track layout and other factors affecting the efficient and long-term operation of this network.

4. Deep drainage systems are designed taking into account the bearing capacity of the subsoil and the stability of the slopes, and, where necessary, the properties of the subsoil as determined by geotechnical or geological investigations.

5. When designing deep drainage, account shall be taken of water seeping into the railway earthworks, drawn up from the subsoil, flowing to the embankment slopes, and seeping from these slopes, by managing such water and protecting the structure of the railway earthworks and the guideway.

6. The drainage of rainwater and meltwater contaminated with harmful substances shall be designed using treatment facilities and shall take into account a location separate from other drainage systems.

Chapter 9

Railway engineering structures

§ 37. 1. Railway engineering structures include: bridges, viaducts, culverts, retaining walls, railway tunnels, and underpasses and overpasses serving passenger traffic.

2. Railway engineering structures shall be designed in such a way that the structure, stability, load bearing capacity and durability of these structures shall meet at least the

requirements of TSI Infrastructure, the UIC regulations and that the load bearing capacity and serviceability limit states are not exceeded over the expected service life. A road engineering structure shall be designed in such a way that the durability of its structural components is ensured over the expected service life.

3. The design and location of railway engineering structures shall ensure that the formation line of the railway track is maintained in accordance with the shape of the railway track.

4. The limit states of load-bearing capacity shall be those relating to the structural safety and operational safety of the railway engineering structure.

5. The load-bearing limit states shall be considered to be exceeded if one or more of the following circumstances apply:

1) loss of equilibrium in the structure of a railway engineering structure or a part thereof that is considered a rigid body;
2) destruction of the railway engineering structure as a result of excessive deformation or its transformation into a mechanism;
3) material damage and loss of structural stability of the railway engineering structure or part thereof;
4) fatigue failure of the railway engineering structure;
5) destruction or excessive deformation of the subgrade of a railway engineering structure.

6. The serviceability limit states are considered to be the limit states for the function of the structure or its component under the conditions of use and user comfort, in particular deflections, scratches and vibrations of the structure.

7. Serviceability limits shall be considered to be exceeded if one or more of the following circumstances apply:

1) deflection of a road construction of an engineering structure that may reduce the usefulness of the facility or damage related equipment;
2) scratching a component of a road structure of an engineering structure, which may lead to damage;
3) vibration of a railway component of an engineering structure, which may lead to damage of a structural element or device of that structure or to a reduction in user comfort;

4) displacement of a railway engineering structure or part thereof which may result in damage to the subgrade structure or to equipment used for managing rail traffic, or in a reduction in user comfort;

5) increased impact of railway infrastructure on the surrounding area and the environment in terms of vibration and noise – in the case of railway infrastructure located in city centres.

8. The minimum expected service life of a railway engineering structure shall be determined taking into account the expected service life of the individual elements of its structure and the equipment of that structure which:

1) for the main elements of the railway construction of an engineering structure shall be at least:
   a) 150 years – in the case of the foundation and supports of a bridge, which are constructed in water and in floodplains, and railway tunnel structures,
   b) 100 years – in the case of the foundations and supports of a bridge or viaduct constructed on land, the main girder and deck of a bridge or viaduct, a culvert and a retaining wall,
   c) 25 years – in the case of other structural elements of a bridge or viaduct, including external strands;
2) for railway engineering structures shall be at least:
   a) 50 years – in the case of railway tunnel waterproofing and waterproofing of retaining structures,
   b) 25 years – in the case of waterproofing for bridge or viaduct supports, culvert waterproofing, bearings, balustrades, and anti-corrosion protection for steel structural elements of a railway engineering structure,
   c) 20 years – in the case of waterproofing for a bridge deck, bridge or viaduct, expansion joints, drainage elements and drainage systems for railway engineering structures.

9. In a railway engineering structure, it is possible to replace all components whose minimum expected service life is shorter than the minimum expected service life of the main structural element of the railway engineering structure.

10. The minimum expected service lives apply to newly constructed railway engineering structures. For an existing railway engineering structures, the service life shall be determined

taking into account the previous service life and the technical condition of the structure, and the conditions shall apply only to those elements of construction which are subject to construction or conversion.

11. It is not permitted to design railway engineering structures using prestressed concrete with externally laid cabling.

§ 38. 1. All bridges and viaducts with a theoretical span length L ≥ 21 m, as well as prototype structures and those constructed in a manner that raises concerns regarding the quality of workmanship, are subject to a test load (static load) together with measurements of deflection, deformation and settlement of the supports. During the measurements and tests and in the report referred to in paragraph 3(1), the compliance with all the usage conditions contained in the bridge or viaduct design and construction standards shall be confirmed.

2. Bridges and viaducts with ballasted and non-ballasted guideway on which there is rail freight traffic at a speed of more than 100 km/h or passenger traffic at a speed of more than 160 km/h (in accordance with the traffic regulations) and their theoretical span is L ≥ 15 m are subject a dynamic test load.

3. Static or dynamic load testing of bridges and viaducts is followed by a detailed inspection of the structure to assess its technical condition (a ‘zero’ inspection), which includes:

1) test load report;
2) the complete inspection documentation in paper and electronic form, with photographic documentation;
3) an electronic version of the full and final post-execution documentation.

4. The ‘zero’ inspection is also carried out on bridges and viaducts with a theoretical span length L < 21 m.

5. When designing a bridge or viaduct with a theoretical span length exceeding 100 m or an unusual span configuration, a supervision level of DSL 3 shall be ensured, in accordance with standard PN-EN 1990: 2004 Eurocode – Basis of structural design

6. The minimum thickness of the deck slab is 25 cm for bridge and viaduct spans, and 20 cm for footbridges over railway tracks.

§ 39. 1. The construction of the railway guideway on railway engineering structures without overburden has rail track supports independent of the structural structure of the

structure. In the case of ballastless guideway other than bridge sleepers, track plates separated from the span superstructure are used.

2. The track substructure and guideway in the vicinity of the abutments feature a reinforced structure designed to prevent differential settlement caused by differences in structural systems and ground elasticity.

3. In order to avoid adverse dynamic effects at the rail joints, the track shall be laid as continuous welded track for the entire length of the railway engineering structure and for a distance of 10 m, measured from the end of the rear wall of the abutments.

4. The static calculation of the superstructure of a railway engineering structure takes into account the displacement of the track axis relative to the longitudinal axis of the structure.

5. The elevation of the railway track on a railway engineering structure shall be specified in the construction project of the railway engineering structure.

6. On railway engineering structures with spans of less than 30 m, the railway track may be laid in the longitudinal profile of the railway line applicable to that section.

7. If the railway engineering structure is located in a curve or transition curve, the track shall be arranged with an appropriate cant and suitable cant ramps. In tracks located on track sleepers, track cant shall be obtained by structural lifting of the side rails or by the use of appropriate saddles, except that:

1) with a cant of up to 50 mm, bridge sleepers with a correspondingly higher height shall be used;
2) where the cant exceeds 50 mm, and where the stringers have not been structurally raised, saddles of the appropriate height must be fitted on the stringer or on the girder flange beneath the outer chord.

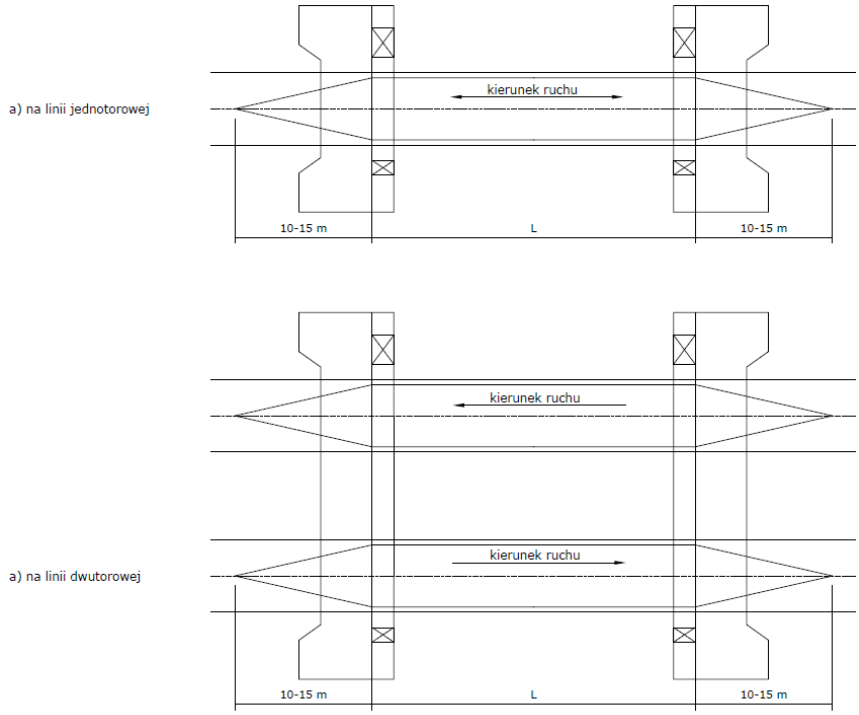
8. In order to counteract the effects of the derailment of the rolling stock, on and under the railway engineering structure:

1) on the outermost tracks of railway engineering structures of more than 6 m in length, with the exception of overhead structures having a ballasted guideway, situated:
    a) on curves with a radius of less than 350 m and on transition curves adjacent to those curves,
    b) on railway tracks at railway stations,

c) on embankments, where the height difference between the rail head and the foot of the embankment is greater than 4 m;

2) under railway engineering structures with supports located less than 2.5 metres from the centreline of the track

– buffer stops made of rails, steel sections or other structures shall be installed along the entire length, on the inside of the track, at a distance of 190 mm or more from the side face of the rail head. The diagram showing the layout of buffer stops on railway engineering structures is shown in Figure 3.3.



a) na linii jednotorowej
kierunek ruchu
10-15 m
a) na linii dwutoriwej

a) on a single-track line
direction of traffic
10–15 m
a) on a double-track line

Figure 3.3. Diagram showing the layout of buffer stops on railway engineering structures.

9. The upper edge of the buffer is located in the space between the surface of the railway track and the surface parallel to it, situated 25 mm below. The bow end of the buffer is made by directly joining the buffer rails or sections together, without the use of wooden bows. Where the start of a turnout is located outside a railway engineering structure at a distance of

less than 15 m from the centreline of the span at the end support, the nose section of the buffers on that side is shortened.

10. In the event of technical impossibility to use bufffer stops in the manner specified in paragraph 8, other effective methods to counteract the derailment of rolling stock may be used.

11. It is unacceptable to account for the transmission of horizontal forces through friction forces. The span design allows bearings to be replaced without the need for additional reinforcement of the supporting structure.

§ 40. 1. The bridge clearance is determined on the basis of hydrological calculations for the maximum annual water flow, with a probability of occurrence for the design flow not exceeding:

1) 0.1 %, provided that the following requirements are met:
   a) the bottom of the bridge structure shall be erected above the level of maximum dammed water over non-navigable inland waters by:
      – at least 1.00 m – on waters considered navigable and on non-navigable courses,
      – at least 0.50 m – on other non-navigable waters,
      – at least 1.50 m – on waters considered navigable, under non-navigable spans,
   b) the bottom of the structure of the bridge (spans) above the navigable courses shall be erected above the highest level of navigable water in accordance with the requirements of the given waterway class,
   c) the upper surface of the lower bossage of the railway bridge support shall be erected at least 0.50 m above the level of maximum dammed water,
   d) due to the conditions of ice flow in multi-span bridges, at least one span in the main bed of the course shall have a width equalling at least 1/5 of the width of the water table at its medium level;
2) 0,3 % – if the requirements referred to in point 1 are not met.

2. The clearance of viaducts over railway lines must comply with the minimum structural gauge, taking into account the requirements of the overhead contact line system, and, on railway lines designated by the infrastructure manager, the land reserve set aside for railway line expansion, as well as the requirements for the transport of freight exceeding the loading gauge.

3. Safety zones for operation located outside the danger zone for the movement of trains and railway vehicles shall be set up on bridges and viaducts along the outermost tracks.

4. Safety zones shall be provided as service and emergency walkways along the railway track, with a minimum width of 0.80 m. Where it is not possible to provide a service and emergency walkway with a minimum width of 0.80 m on existing structures, the width of the service and emergency walkway may be reduced to 0.50 m.

5. For bridges, culverts and viaducts designed on embankment slopes higher than 1 m, access stairs leading from ground level to the structure must be provided, secured by a handrail, with one flight at each end of the structure.

6. The operation of cable lines on bridges and viaducts shall only be permitted in specially designed and segregated cable trays located outside the structure gauge.

§ 41. 1. The routing of small watercourses through a culvert beneath a railway embankment shall meet the following conditions:

1) existing water drainage facilities with fixed or periodic flows adjacent to the railway line shall be taken into account when determining the ordinal height of a watercourse at a culvert;
2) the culvert clearance is determined on the basis of hydrological calculations for a design flow with a probability of occurrence of no more than 1 %;
3) The clearance of a culvert made of prefabricated elements must not be designed on the assumption that the inlet will be completely submerged.

§ 42. 1. The design of the railway tunnel does not restrict:

1) the technical and operational parameters of the railway line, including in particularly cases where the values fall below those specified in the ‘TSI categories of line’ referred to in point 4.2.1. of the Annex to the Infrastructure TSI, unless such a limitation is necessary for urban planning reasons related to the buildings existing at the time of design of the railway tunnel;
2) the structural requirements for the laying of guideway and drainage, and the installation of the overhead contact line.

2. In order to ensure the safety of people, in newly constructed railway tunnels that are structurally connected to buildings intended for public use, it is prohibited to locate supports

that are structurally connected to such buildings within 4 metres of the centreline of through tracks and primary main lines running through railway tunnels.

3. In railway tunnels, service and emergency walkways with a width of at least 0.80 m shall be provided, with at least one such walkway for each track in the tunnel. In existing railway tunnels, the width of service and emergency walkways may be reduced to 0.50 m; in exceptional cases, these may be replaced by recesses with dimensions of at least: width – 1.50 m, height – 2 m, depth – 0.60 m, arranged alternately on both sides of the railway track at intervals of no more than 25 m. The use of service and emergency walkways is not required along the length of platforms.

4. A railway tunnel with a length of 100 m or more shall comply with the conditions laid down in Commission Regulation (EU) No 1303/2014 of 18 November 2014 concerning the technical specification for interoperability relating to 'safety in railway tunnels' of the rail system of the European Union (OJ L 356, 12.12.2014, p. 394, as amended[1)].

5. In railway tunnels along the outermost tracks, service safety zones situated outside the train danger zone shall be arranged in accordance with the conditions laid down in § 40(4).

6. The railway tunnel shall have a drainage system for draining water from the tunnel.

7. The railway tunnel, which is over 200 metres long, shall be fitted with a ventilation system and lighting.

Chapter 10

Electric traction power supply equipment

§ 43. 1. For DC systems, the electric traction power supply equipment supplying electrical energy to rail traction units when running on electrified railway track shall consist of the overhead contact line and overhead contact line supply facilities, including traction substations, sectioning cabs, lateral connection cabs, traction power supply lines and return cables to traction substations and rail connection cables for sectioning cabs and lateral connection cabs.

2. For AC systems, the electric traction power supply equipment supplying electrical energy to rail traction units when running on electrified railway track shall consist of the

[1)] The amendments to the aforementioned Regulation were published in the Official Journal of the European Union L 153 of 10 June 2016, p. 28, the Official Journal of the European Union L 139 of 27 May 2019, p. 108, and in the Official Journal of the EU L 2024/191 of 9 January 2024.

overhead contact line and overhead contact line supply facilities, including traction substations, supply lines for traction substations, auto-transformer cabs, overhead contact line supply lines and neutral-return cables for traction substations and auto-transformer cabs.

§ 44. 1. Traction substations consist of a set of electrical power supply, conversion and distribution equipment, located either entirely or partially in buildings or containers, situated on a fenced-off site that is inaccessible to unauthorised persons and equipped with a protective earthing system.

2. The distances between the traction substations and the type of equipment used therein depend on:

1) the adopted electro-traction power supply system;
2) the assumed train traffic volume for the railway line;
3) the type, speed and weight of trains;
4) the type of electric traction vehicle;
5) the parameters of the track system in the plan and profile.

3. Power lines feeding traction substations shall be constructed as overhead or cable power lines.

4. Section cabs, cross-connection cabs and autotransformer cabs, which constitute a set of electrical switchgear installed in buildings or containers, shall have a protective earth connection.

5. Traction substations, section cabs, cross-connection cabs and autotransformer cabs shall have road access, whilst traction substations may also have a railway track leading to them.

6. Electricity is delivered to the overhead line system from traction substations, section cabs, cross-connection cabs or autotransformer cabs via overhead line feeder lines or underground cables.

§ 45. 1. The overhead line system comprises the contact network, the return circuit and additional cables, depending on the power supply system. The contact network used to directly feed electrical energy into the electric traction vehicle through current collectors consists of a wiring harness together with its cross-sectional fittings, as well as support structures and their foundations. The return circuit consists of the railway tracks, their

electrical connections and the cables intended for traction currents, depending on the power supply system used. Additional ducts are used to conduct traction currents.

2. The mechanical strength of the contact line network support structures and line fittings, and the distance between adjacent structures, shall ensure that the cables and line fittings are suspended in such a way as to enable the current collectors to interact correctly with the overhead contact line at the required train speeds and within the specified range of ambient temperatures.

3. The location of the supporting structures of the contact line at a railway track shall not:

1) overlap the structure gauge of above-ground and underground structures;
2) hinder or restrict the technical operations carried out as part of railway line maintenance;
3) interfere with drainage devices and their functioning.

4. The live elements of the overhead contact line shall be isolated from supporting structures.

5. In a 3 kV DC power supply system, the distance between energised parts of the overhead contact line or current collector and grounded or rail connected parts of railway structures or other structures shall not be less than 200 mm. This distance can be reduced to 150 mm if the elements are permanently prevented from moving any closer together by the use of a stiffening structure or insulating elements.

6. In a 25 kV AC power supply system the distance between energised parts of the overhead contact line or current collector and grounded parts of railway structures or other structures shall not be less than 270 mm. This distance can be reduced to 150 mm if the elements are permanently prevented from moving any closer together by the use of a stiffening structure or insulating elements.

7. In order to allow selective voltage switch-off in selected sections of the overhead contact line, sectioning of the overhead contact line shall be used. At railway stations, all main tracks and their connections are sectioned. Depending on the track layout, traffic management and transport load, sectioning may include groups of railway tracks.

8. For direct current powered railway lines, the supporting structures of the overhead contact line can be used to suspend isolated medium-voltage power cables supplying railway installations of ancillary railway structures.

§ 46. 1. Connecting equipment in traction substations, section cabs, cross-connection cabs or autotransformer cabs, sectioning disconnectors of the overhead contact line and other connection equipment suitable for remote operation may be integrated into the remote control system.

2. The remote control system shall be resistant to interference resulting in a faulty control and shall be equipped with system malfunction signalling. Connecting equipment shall have a mapped state of the connectors in the remote control setting room.

§ 47. 1. The traction power supply circuit, comprising the equipment of the traction substations, section cabs, sectioning cabinets, cross-connection cabs and autotransformer cabs, as well as the traction feeder lines, the traction contact network and return circuits, shall ensure the ability to interrupt short-circuit currents in traction vehicles and the components of this circuit.

2. In a DC power supply system, protection against electric shock involves the use of a power supply circuit designed to quickly cut off the current flow in the event of a short circuit. To ensure that earth-fault currents can be switched off, the connection is made to:

1) return circuit (rail connecting) – for DC system – or
2) earth traction system (grounded) — for AC system.

3. Metal structures located above ground along railway lines, at a distance of less than 5 metres from the centreline of the outermost track on a DC electrified line, must be connected to the return circuit (rail connected).

4. Shelters, fences and other small architectural structures made of conductive materials, which are located wholly or partly within the upper contact line zone and the current collector zone, as defined in the infrastructure manager's regulations, shall be protected by means of electric shock protection measures.

5. If the railway tracks form a return circuit, the average resistance of a single track circuit to earth shall not be less than 0.5 Ω/km. To ensure this condition is met, the distance between the ballast layer and the rail foot must be at least 30 mm.

6. Non-welded rails in a continuous-weld track are joined by rail connectors fixed to the rail by welding, soldering, pressing, bolting or any other method approved by the infrastructure manager. The construction of rail connectors shall not increase the overall

resistance of the return network by more than 20 %. It shall be forbidden to connect rail connectors to the rail foot or collar by welding.

PART IV

Railway structures on narrow gauge railway lines

Chapter 1

General conditions and classification of narrow gauge railway lines

§ 48. For matters not regulated by this chapter, the provisions of Part III shall apply mutatis mutandis.

§ 49. 1. Narrow-gauge railways (narrow-gauge tracks) are railways with a track gauge of 600 mm, 750 mm, 785 mm or 1000 mm, measured 10 mm below the running surface of the rail head.

2. For existing narrow-gauge railways where the field conditions do not allow the use of tracks of a width of 750 mm or where there is a need for extension, it is possible to use tracks of a width of 600 mm.

§ 50. 1. Narrow-gauge railways are classified into three categories based on their operational parameters. The operational parameters of narrow-gauge railway lines are set out in Table 4.1.

Table 4.1. Operational parameters of narrow-gauge railway lines

Category of narrow gauge railway line	Maximum speed v_{max} [km/h]	Permissible axle loads P [kN]
I	$v_{max}>40$	8.3
II	$30 \leq v_{max} \leq 40$	8.3
III	$v_{max} \leq 30$	8.3

2. On narrow gauge railway lines where standard gauge freight wagons are transported on transfer cars, the maximum speed of freight trains shall not exceed 20 km/h – for lines with a track gauge of 750 mm - and 30 km/h – for lines with a track gauge of 1000 mm, regardless of the railway line category.

3. Fulfilment of any one of the conditions set out in Table 4.1 is sufficient for a railway line to be classified in the relevant category.

Chapter 2

Railway substructure

§ 51. 1. The width of the subgrade on a straight section and on curves with a radius greater than 300 m for a single-track narrow gauge railway with a track gauge of 750 mm shall be at least:

1) 3.80 m – for Category I lines;

2) 3.50 m – for Category II and III lines.

2. When converting existing narrow-gauge railway lines, it is possible to use the following subgrade widths:

1) 3.50 m – for Category I and II lines;

2) 3.30 m – for Category III lines.

3. For newly constructed double-track railway lines, the subgrade width shall be at least 7.30 m. Standard cross-sections of the track substructure and the guideway are shown in Fig. 4.1.

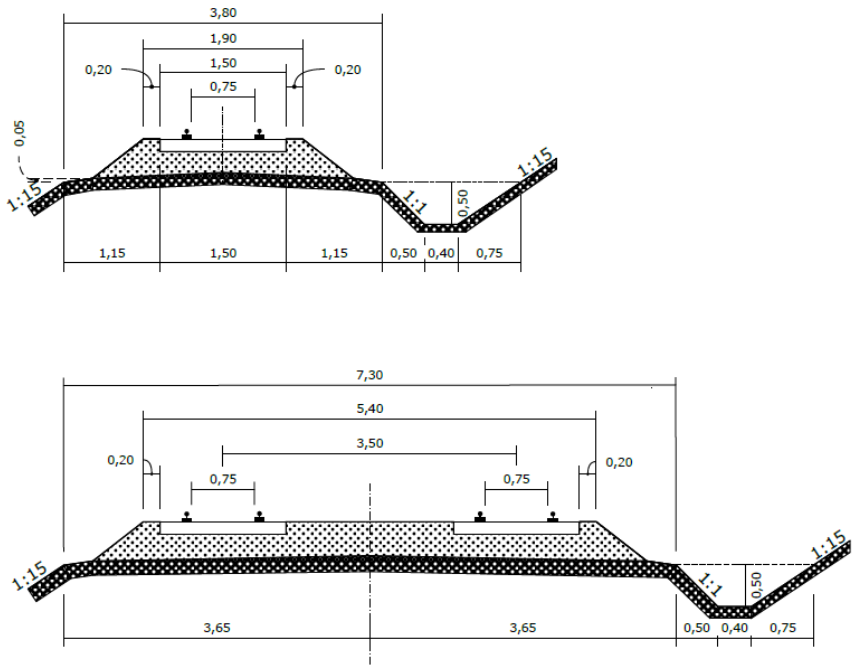


Figure 4.1. Standard cross-sections of the track substructure and guideway in [m].

4. When constructing a single-track narrow-gauge railway line on a curve with a radius of less than 300 m, the width of the subgrade referred to in paragraph 2 shall be increased by 0.15 m. When constructing a double-track narrow-gauge railway line in a curve, the subgrade width shall be increased by the values resulting from the requirements of the relevant structure gauge.

5. The width of the subgrade bed, measured from the edge of the subgrade to the lower edge of the ballast, shall be at least 0,50 m on each side of the track. On existing railway lines, a narrower subgrade bed width is permitted, provided it is not less than 0.30 m.

6. At railway stations and passing sidings, the subgrade shall be constructed with a transverse gradient of not less than 4 % in the direction of drainage devices.

§ 52. 1. The slope ratio for trenches and embankments with a height of up to 6 m in loose land shall be 1:1.5. For embankments higher than 6 m, the lower section of the embankment, within 6 m of the subgrade, shall be constructed with a slope of 1:1.75.

2. The slope of an embankment in rocky ground up to 6 m high shall be 1:1.3. For embankments higher than 6 m, the lower part of the embankment, within 6 m of the subgrade, shall have a slope of 1:1.5.

3. The slopes of embankments and trenches over 6 m high shall have beds between 0.5 m and 1 m wide.

4. Under favourable geological and hydrogeological conditions, the slope of trenches up to 12 m deep, depending on the type and stratification of the soil, should be within the following limits:

1) 1:1.5 – in loose soils with uniform layering;
2) from 1:0.5 to 1:1.5 - in rocky soils, depending on the type and stratification of the soil and the depth of the trench;
3) 1:0.1 - in poorly weathered rocks when the layers slope towards the outside of the subgrade;
4) from 1:0.2 to 1:1.5 - in rocky soils, depending on the type and stratification of rocks and the depth of the trench.

5. The slope ratio for embankments and trenches with a height of more than 12 m are determined in each case on the basis of the results of geotechnical investigations.

6. No shallow trenches less than 1 m deep or low embankments less than 0.50 m high shall be constructed. On Category III narrow-gauge railway lines, embankments of a lesser height may be constructed in exceptional cases.

§ 53. 1. The longitudinal gradients of the lateral and top ditches shall be no smaller than 2 ‰ and their cross-section ensures free flow of the collected water.

2. The bottom and slopes of drainage ditches with steep gradients shall be reinforced taking into account the conditions arising from the volume and rate of flow of water and the type of ground.

3. In trenches with a longitudinal gradient of less than 2 ‰, where the trench bottom has an inverted slope, the depth of the trench may be reduced to 0.20 m, provided that the regulatory upper width of the trench is maintained.

4. Side ditches along embankments on flat sections of railway line or on impermeable ground, and along embankments up to 0.50 m high, shall be constructed on both sides of the embankment. The bed between the upper edge of the ditch and the base of the embankment shall be at least 1 m and shall have a lateral gradient in the direction of the ditch of not less than 2 %.

5. Efforts should be made to capture water flowing down the slope into side ditches that depending on hydrogeological conditions are offset from the track and have an increased cross-section.

6. In areas at particular risk of flooding, the edge of the subgrade must rise at least 0.50 m above the observed or calculated highest water level.

7. At a railway station under construction or undergoing refurbishment, the track substructure within the station plains area shall be constructed from loose fill and properly drained, taking into account the existing ground conditions.

Chapter 3

Guideway

§ 54. 1. The railway tracks of the main narrow gauge line of category I and II shall be laid with new rolled rails for narrow gauge railways, new standard gauge rails or suitable old gauge rails for standard gauge railways.

2. For the construction or conversion of a narrow-gauge railway line on which transport of standard-gauge wagons on transporters is planned, rails weighing at least 23 kg per running metre shall be used for the main tracks, the route and stations, side tracks longer than 1 km and the tracks within the switching ramp. For side tracks, it is possible to use lighter rails – with a weight of no less than 18.30 kg per running metre.

3. Main railway tracks of Category III narrow gauge railway lines and main and side station tracks of narrow gauge railway lines of all categories, taking into account the condition referred to in paragraph 2, may be laid with narrow gauge railway rails weighing not less than 18.30 kg per running metre.

4. The type and length of rails shall be determined according to the type and axle load of the rolling stock intended to run on a given narrow-gauge railway line and its speed.

5. The length of rails laid in railway tracks, except for shortened rails in curves, at turnouts or crossings of railway tracks, taking into account the cases specified in § 21(1) to (3), may not be less than:

1) 15 m – for new narrow-gauge railway rails and old standard-gauge railway rails;
2) 30 m – for new standard-gauge rails.

6. When laying the rails referred to in paragraph 5, the length of any rail section, including sections of welded rail, must be longer than 60 m. This section may be longer if there is a need to avoid splice bars of the rails on engineering structures.

7. On sections of railway track where rails are exposed to creep, anti-creep resistance or other anti-creep measures shall be applied.

§ 55. 1. For transport train traffic, the number of sleepers per km of track length shall be:

1) between 1,300 and 1,400 units – on straight sections;
2) between 1,400 and 1,500 units – on curved sections.

2. The length of wooden sleepers for the construction of railway tracks referred to in paragraph 1 shall be:

1) 1.80 m – for the tracks on the switching ramp and in tracks intended for parking standard-gauge wagons on transporters;
2) at least 1.50 m – for other station and through tracks.

3. The length of concrete sleepers for the construction of railway tracks referred to in paragraph 1 shall not be less than 1.45 m.

§ 56. 1. On railway tracks intended for transporter trains, crushed stone or chippings is used as ballast. No slag ballast is used for railway tracks on concrete sleepers.

2. Inter-track spaces at railway stations and passing sidings, up to the level of the top surface of the sleepers on the adjacent tracks, may be filled with ballast of a lower grade than crushed stone or chippings.

3. Crushed stone ballast should not be laid directly onto a freshly constructed substructure. In exceptional cases where it is necessary to lay crushed stone on top of a freshly constructed substructure, a 0.08 m thick gravel or sand protective layer shall be laid between the subgrade and the crushed stone layer.

4. The thickness of the ballast layer under the wooden sleepers is:

1) 0.20 m – on the main tracks of the Category I and II narrow-gauge railway lines;
2) 0.15 m – on the side tracks of Category I and II narrow gauge railway lines and on the main tracks of Category III narrow gauge railway lines;
3) 0.10 m – on the side tracks of a Category III narrow-gauge railway line.

5. In railway tracks built on concrete sleepers, the thickness of the ballast layer referred to in paragraph 4 shall be increased by 0,05 m.

§ 57. 1. On the main tracks of Category I narrow-gauge railway lines, turnouts with a gradient of 1:7 or less are used. Turnouts shall be equipped with slide- or hook-and-loop pre-setting locks.

2. Single and double cross turnouts with double crossings having a gradient of less than 1:7 shall not be used.

3. A straight track insert of at least 6 m in length shall be used between turnouts aligned blade to blade in the main railway tracks.

4. Turnouts and crossings of railway tracks on main railway tracks shall be of the same type as the rails of adjacent tracks, or of a heavier type.

5. Turnouts are laid on a crushed stone ballast. Gravel or chippings may be used.

Chapter 4

Designing the track position along the route

§ 58. 1. The maximum longitudinal gradient of narrow gauge railway tracks, increased over the length of horizontal curves by the value of the movement resistance in curves, shall not exceed the determinant gradient specified in Table 4.2.

Table 4.2. Determinant gradient on narrow gauge railway lines

Category of narrow gauge railway line	Largest determinant gradient [‰] at traction:	
	single	double or single, if the technical characteristics of the single traction unit used allow it
I, II	20	30
III	25	40

2. The additional resistance in the curve is determined according to the formula:

$$i_k = \frac{690}{R}$$

where:

i_k- is the additional resistance in the curve [‰],

R - is the radius of the curve [m].

3. On curves that are close together, the additional resistance is determined by the following formula:

$$i_k = \frac{12\alpha}{l}$$

where:

i_k - is the additional resistance in the curve [‰],

I – is the length of the section [m],

α – is the arithmetic sum of the centre angles of all the curves in the given section [°].

3. On narrow-gauge railway lines where freight traffic is predominantly in one direction, where the volume of freight in the empty direction is less than 0.60 of that in the loaded direction and no changes are anticipated in this regard, it is permissible to apply determinant gradients in the empty direction that are 20 % higher than those adopted for the loaded direction.

4. The sharp kinks of the longitudinal profile of the railway track shall be mitigated by means of horizontal inserts or sections with an intermediate gradient.

5. Gradients on the opposite side of the railway track exceeding 4 ‰ shall be separated by horizontal sections or sections with a gradient not exceeding 4 ‰.

6. Minimum lengths of gradient sections of a railway track longitudinal profile with a uniform gradient are specified in Table 4.3.

Table 4.3. Minimum lengths of gradient sections of a railway track longitudinal profile with a uniform gradient

Category of narrow gauge railway line	Minimum length of a section of the longitudinal profile of a railway track with a uniform gradient [m] for a determinant gradient in the loaded direction [‰]		
	6-7	8-12	13-30
I, II	200	150	100
III	100	75	50

7. The gradient of the longitudinal profile of the railway track in the trenches must not be less than 2 ‰.

8. Kinks of the longitudinal profile of a railway track are to be rounded when the sum of two adjacent reverse gradients or the difference of two gradients of the same direction is greater than 4 ‰.

9. The rounding of the kinks in the longitudinal profile of the railway track shall be accomplished by curves with a radius of:

1) 2 000 m to 5 000 m – for narrow-gauge railway lines of categories I and II;
2) 1 000 m – for category III narrow-gauge railway line and all side tracks.

10. The vertical curve rise of rounding of the kinks of the longitudinal profile of a railway track shall be calculated according to the formula:

$$f = \frac{R \cdot n^2}{8}$$

where:

F – is the rise of the curve [m],

R – is the radius of the curve [m],

n – is the sum or difference of gradients [‰].

11. No rounding of the kink of the longitudinal profile is performed when f < 0.008 m.

12. The length of the tangent of the curve rounding the kink of the longitudinal profile is calculated using the following formula:

$$t = \frac{R \cdot n}{2}$$

where:

t – is the length of the tangent of the curve rounding the kink of the longitudinal profile [m],

R – is the radius of the curve [m],

n – is the sum or difference of gradients [‰].

13. The ordinates of the curve rounding at any point on the tangent are calculated using the following formula:

$$y = \frac{x^2}{2 \cdot R}$$

where:

y – is the ordinate of the curve [m] related to the tangent of the curve,

x – is the abscissa on the tangent axis calculated [m] from the origin of the tangent,

R - is the radius of the curve [m].

14. Rounding of the kink of the longitudinal profile is done in the substructure. Where the ordinates of the curve are less than 0,08 m, rounding may be done by changing the thickness of the ballast.

15. The curves rounding the kinks of the longitudinal profile do not overlap the bridge girders; the distance between the start of the curve and the girder is at least 6 m.

16. Turnouts may be laid on curves rounding the kinks of the longitudinal profile if these curves are concave. Turnouts may be laid on convex curves if the radius of the rounding curve is greater than 2 000 m. In other cases, the start of the rounding curve shall be offset from the end of the turnout by a distance of not less than 6 m.

§ 59. 1. The radii of horizontal circular curves on the route range from 100 m to 2 000 m, and are multiples of 100 m, and radii of less than 400 m are multiples of 50.

2. Depending on the category of the narrow-gauge railway line, the radii of horizontal circular curves may not be less than:

1) 200 m – for a Category I narrow-gauge railway line;

2) 150 m – for a Category II narrow-gauge railway line;

3) 100 m – for a Category III narrow-gauge railway line.

3. Horizontal circular curves with radii smaller than those specified in paragraph 2 shall be permitted on main and side tracks at bypasses and approaches to existing crossings of railway lines or railway sidings with roads, provided that the radius of the curve ensures that the rolling stock can enter and that the design speed is maintained.

4. Horizontal circular curves in the plan are separated by inserts of straight rail track. The length of straight track insterts allows for the construction of transition curves and cant compensation curves whilst retaining straight sections:

1) 20 m – for a Category I and II narrow-gauge railway line;

2) 10 m – for a Category III narrow-gauge railway line.

5. In the case of the reconstruction of existing narrow-gauge railway lines, the use of horizontal curve radii no smaller than those specified in the regulations in force at the time of the construction of those railway lines is permitted.

§ 60. On curves with a radius of less than 300 m, the railway track shall be widened in accordance with the values specified in Table 4.4.

Table 4.4. Track widening on curves

Curve radius R [m]	Widening value [mm]
275 > R ≥ 180	5
180 > R ≥ 90	10
R < 90	15

§ 61. 1. Transitions between a straight line and a curve with a radius equal to or less than 300 m shall be mitigated by means of transition curves. The transition curves shall be drawn between curves with different radii of not more than 300 m. The length of the transition curve shall be calculated according to the following formula:

$$l = \frac{400 \cdot h}{1000}$$

where:

l – is the length of the transition curve [m],

h – is the rail track cant for the assumed speed and curve radius [mm].

2. The end points of the transition curves shall be at least 6 m apart from turnouts and bridge girders on which the railway track is laid without ballast, and from the beginning of the curve rounding the kink of the longitudinal profile.

Section 62. 1. The cant of the railway track shall be made on curves with radii less than 2 000 m.

2. The value of the track cant shall be calculated using the formula:

$$h = \frac{6.3 \cdot v^2}{R}$$

where:

h – is the cant value [mm],

v – is the technical speed of the fastest train on the concerned narrow-gauge railway line [km/h],

R - is the radius of the curve [m].

3. The cant of the railway track must not exceed 80 mm. In railway tracks adapted for the transit of standard gauge wagons on transporters, the maximum cant value of the railway track shall be 40 mm. Where transporters and other trains are running on the tracks at speeds that require a greater cant, the speed of these trains shall be limited so that it corresponds to a cant of 40 mm.

4. The transition from a section of railway track without cant to a section with cant, or from a smaller cant to a larger one, shall be made on a cant ramp. The cant ramp is constructed along the length of the transition curve; if there is no transition curve, it is constructed along the straight section preceding the curve. The tilt of the cant ramp shall not be greater than 1:400.

§ 63. 1. The distance between the centres of adjacent railway tracks on sections of the route shall not be less than:

1) 3 m – between narrow-gauge tracks;
2) 3.70 m – between the narrow-gauge track and the standard-gauge track;
3) 4 m – between the narrow-gauge tracks for transporter trains.

2. In the case of the conversion of existing narrow-gauge railway lines, it is permissible to use a smaller distance between the track centres of the narrow-gauge track and the standard-gauge track, provided that this distance is not less than 3.50 m.

3. Where poles, masts, fences or other structures are erected between railway tracks, or where railway tracks are constructed or rebuilt on curves, the distance between the track centres shall be increased.

4. The distance between the centre of the track and the nearest edge of the carriageway must not be less than 3 m.

5. The position of the track centre shall be marked by markers. Track centre markers are positioned 1.50 m from the track centre.

6. The following signs and markers are placed alongside railway tracks:

1) kilometre and hectometre markers;
2) markers indicating the start, middle and end of a curve;
3) markers indicating a longitudinal gradient greater than 6 ‰;
4) markers indicating administrative boundaries of the railway;
5) boundary markers.

Chapter 5

Designing the positioning of railway tracks at railway stations

§ 64. 1. The layout of the railway tracks at stations ensures the operation of loading points whilst minimising the need to manoeuvre loaded transporters.

2. The working length of haulage tracks may be reduced to half the anticipated length of the trains, plus the length of the shunting unit.

3. The freight tracks used for the formation of transporter trains, at the shunting ramps, shall be located on a straight, level section of track, with a length at least equal to that of the transporter train being formed, measured from the end wall of the ramp.

4. Narrow-gauge freight tracks are situated at the same level as the adjacent railway tracks. It is permitted to place the freight railway track below adjacent railway tracks, provided drainage is ensured.

§ 65. 1. Branching of narrow-gauge railway lines and railway sidings from existing railway lines shall be carried out at stations and passing sidings.

2. On the route, it is possible to build a branch, provided that a branch post is built at this point.

§ 66. 1. Primary main and secondary main rail tracks at railway stations and passing sidings, as well as freight and parking rail tracks shall be built on horizontal sections of the railway track. It is permissible to build these railway tracks on a gradient of not more than 2.5 ‰.

2. At passing sidings and passenger stops under construction or undergoing reconstruction, where shunting operations are not foreseen, railway tracks may be constructed on a gradient of no more than 7 ‰.

3. Haulage tracks shall be built on a gradient towards the marshalling tracks of not more than 2.5‰.

4. Railway tracks intended for the parking of loaded transporters shall be built horizontally or on a gradient of not more than 1.5 ‰.

5. Rail tracks inside buildings are laid horizontally.

6. Traction tracks intended exclusively for the movement of single locomotives shall be built on a gradient of no more than 40 ‰.

7. Turnouts are laid on the same gradients as the station tracks. Entrance turnouts are built into the gradient of adjacent routes.

8. The kinks of the longitudinal profile shall be rounded vertically with a 2 000 m radius curve. Within the railway station and at station accesses, the radii of the curves rounding the kinks may be reduced to 1 000 m.

§ 67. 1. The radii of the curves on the primary main and secondary main railway tracks at railway stations and passing sidings shall be no less than those on the adjacent routes.

2. Circular curves in side tracks at stations and passing sidings shall be made with the radius of the curve ensuring that the rolling stock can enter and that the design speed can be maintained.

3. On freight tracks located in the curve, the radius of the curve along the length of the cargo front shall be no less than 100 m, and on rail tracks located along high ramps, the radius of the curve shall be no less than 300 m.

4. Station tracks shall be built without cant and transition curves, whereby straight track inserts can be omitted in side tracks between circular curves.

§ 68. 1. At railway stations, passing sidings and loading bays, the distance between the centres of adjacent railway tracks in straight sections shall not be less than the values given in Table 4.5.

2. Where equipment or structures are situated on inter-track spaces, in particular overhead cranes, signs and signals, fences and posts, the distance between the track centres must take into account the observance of the railway structure gauge.

3. The distance between track centres at the point where the clearance post is situated must not be less than:

1) 3 500 mm – when using transporters regardless of track width;
2) 2 800 mm – for a track gauge of 600 mm;
3) 2 900 mm – for a track gauge of 750 mm;
4) 2 600 mm – for a track gauge of 785 mm;
5) 3 000 mm – for a track gauge of 1 000 mm.

4. The distance between track centres in curves and the limit values of the structure gauge for the rail track in the curve shall increase depending on the track gauge and the values of the curve radius.

Table 4.5. Width of inter-track space on narrow-gauge railway lines

Railway tracks	Distances between track centres of neighbouring railway tracks on straight sections in [m]	
	narrow tracks	between narrow and standard track
primary main and secondary main tracks and adjacent railway tracks	4.00	4.50
repair tracks	5.00	-
main and haulage tracks	4.00	-
shunting tracks and railway tracks in the arrival and departure group	4.00	4.50
transshipment tracks	3.00	3.30
parking tracks	4.00	4.50
with an inter-track platform for: 1) ordinary trains	5.10	5.50
2) transporter trains	5.75	
intended for the operation of transporter trains: 1) at railway stations, passing sidings, loading bays and railway sidings (including where 100 mm-wide semaphores are in use)	4.50	

2) when water cranes and fixed signals with a pole width greater than 100 mm are placed in the intertrack space	4.75
3) when power or telephone poles are placed in the intertrack space	4.90
at loading ramps for the rolling-on and rolling-off of standard gauge wagons to and from transporters	5.00

Chapter 6

Station platforms and equipment

§ 69. 1. Platforms located between the station building and the nearest track shall be at least 4 metres wide along the entire length of the station building, and at least 2 metres wide in the remaining sections.

2. Single-edge platforms on the intertrack shall have a width of not less than 2.40 m.

3. The length of platforms corresponds to the length of passenger trains stopping at them.

4. The distance between the platform edges and the centre of the track on straight sections and on curves with a radius greater than 800 m is 1.30 m. On curves with a radius of 800 m or less, this distance is increased accordingly to accommodate the structure's gauge.

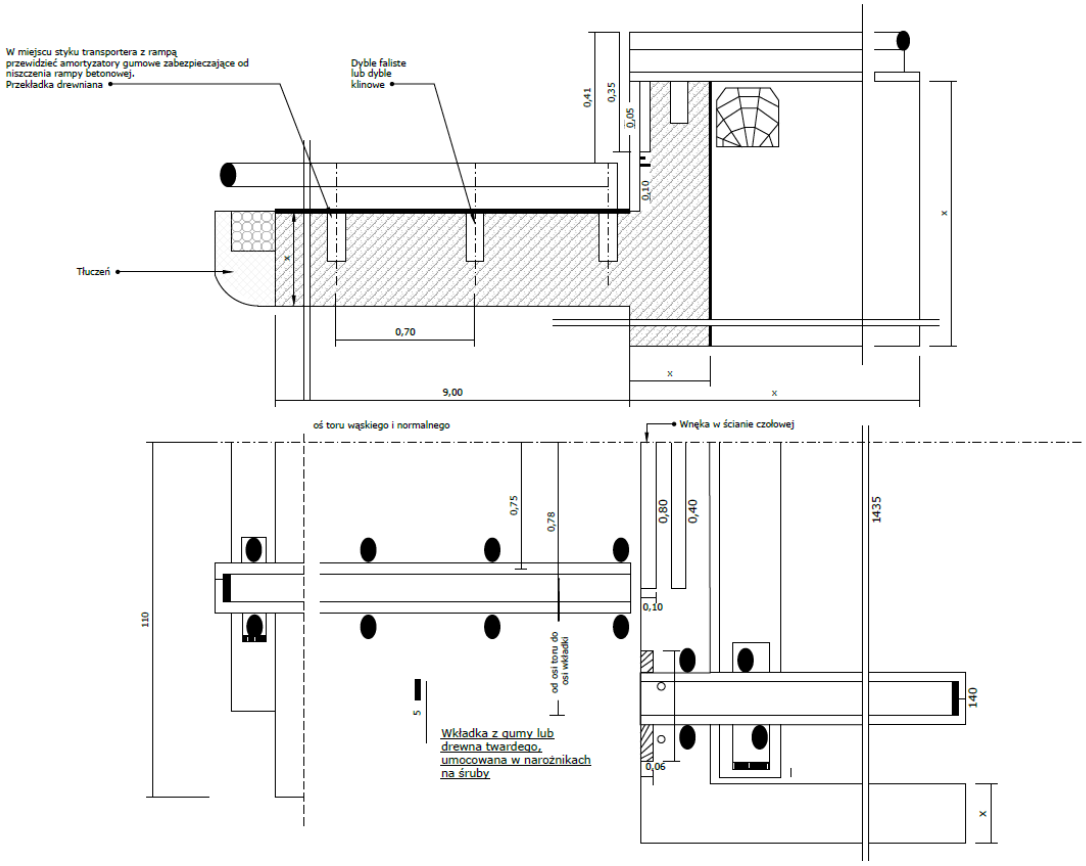
5. The edges of newly built or upgraded platforms shall rise at least 0.20 m above the surface of the railhead.

6. Equipment installed on the platform, in particular posts and lampposts, shall be at least 3 m from the track centre.

§ 70. 1. The distance between the edge of the loading ramp and the centre of the railway track shall be 1.43 m.

2. The surface of the loading ramp rises above the level of the rail head of the adjacent railway track by 0.72 m and above the level of the access carriageway by 1.30 m.

§ 71. 1. The changeover ramp for loading standard-gauge wagons onto transporters shall be located in the axis of the loading tracks of the narrow-gauge and standard-gauge railways. The layout of the changeover ramp components and the technical requirements for its connection to the transporter structure are shown in Figure 4.2.



W miejscu stylu transportera z rampa przewidzieć amortyzatory gumowe zabezpieczające od niszczenia rampy betonowej.	At the point where the transporter meets the ramp rubber bumpers are to be provided to protect the concrete ramp from damage.
Przekładka drewniana	Wooden spacer
Dyble faliste lub dyble klinowe	Corrugated or wedge dowels
Tłuczeń	Crushed stone
oś toru wąskiego i normalnego	narrow and stamdard track axis
Wnęka w ścianie czołowej	A recess in the front wall
Wkładka z gumy lub drewna twardego, umocowana w narożnikach na śruby	Rubber or hardwood liner, mounted in corners on screws
od osi toru do osi wkładki	from the axis of the track to the axis of the insert

Figure 4.2. Layout of the changeover ramp components and the technical requirements for its connection to the transporter structure [m].

2. Fixed loading ramps are fitted with front walls made of durable material. The front walls of temporary ramps can be made of wood.

3. The narrow-gauge loading track is laid on a reinforced and drained substrate made as a concrete or reinforced concrete slab at least 9.30 m long, tied to the ramp face. Outside the slab, the ballast for the narrow-gauge loading track consists of crushed stone with a layer thickness of 0.30 m along the entire length of the transporter train being formed.

4. For a temporary ramp, the narrow-gauge loading track is laid on a 0.30 m thick layer of crushed stone along the entire length of the transporter train.

5. The standard rail loading track located at the upper level of the ramp shall be constructed in such a way that the difference in the level of the upper surfaces of the railheads of both tracks is 0.41 m.

6. On narrow-gauge loading tracks and on tracks intended for the loading and unloading of goods from standard-gauge wagons standing on transporters, devices are installed for placing wedges under the frames of the transporters; these devices must be at least 0.12 m wide and fixed at a distance of 0.78 m from the centre of the narrow-gauge track.

7. The connection of the transporter to the loading track at the ramp end shall be made by means of hook locks attached to the ends of the rails of the standard rail loading track situated at the upper level of the ramp.

8. Loading ramps and tracks, as well as railway tracks where transhipment work is carried out from standard-gauge wagons standing on transporters, shall be illuminated by overhead lighting, and loading ramps and tracks along the length of the conveyor train being formed shall, in addition to overhead lighting, be illuminated on both sides by side lighting to a height of at least 1 m above the rail head.

9. The construction of station facilities will involve the use of mechanical rope winches or locomotives to push standard-gauge wagons onto and off the transporters.

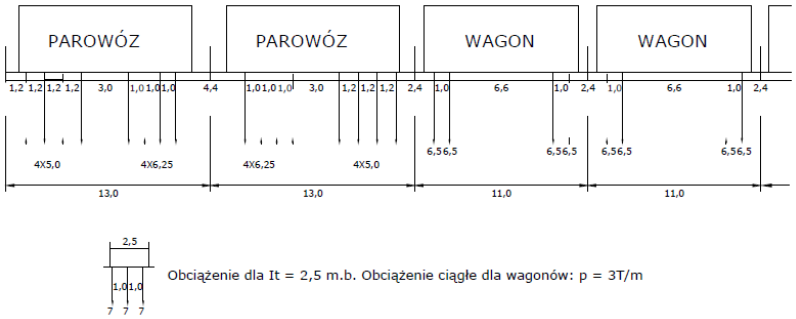
Chapter **7**

Railway engineering structures

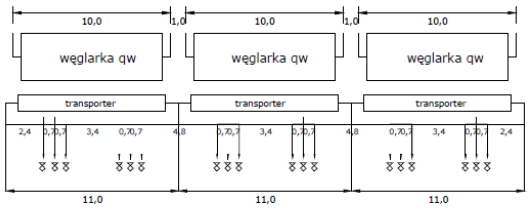
§ 72. 1. Bridges are built to be permanent structures. Wooden bridges may only be constructed as temporary structures.

2. The structural design (framework) of new bridges shall be calculated in accordance with the bridge design regulations referred to in Part III. The bridge load diagrams for structural design calculations are shown in Fig. 4.3.

Schemat A. Obciążenia ruchome obiektów mostowych kolei wąskotorowych o szerokości toru 750 mm



Schemat B. Obciążenia ruchome obiektów mostowych na liniach kolei wąskotorowych o szerokości toru 750 mm, po których kursują transportery przewożące wagony kolei normalnotorowych



Schemat A. Obciążenia ruchome obiektów mostowych kolei wąskotorowych o szerokości toru 750 mm	Diagram A. Live loads for narrow-gauge railway bridge structures with a track gauge of 750 mm
PAROWOZ	STEAM LOCOMOTIVE
WAGON	WAGON
Obciążenie dla It = 2,5 m.b. Obciążenie ciągle dla wagonów: p = 3T/m	Load for It = 2.5 linear meters Continuous load for wagons: p = 3T/m
Schemat B. Obciążenia ruchome obiektów mostowych na liniach kolei wąskotorowych o szerokości toru 750 mm, po których kursują transportery przewożące wagony kolei normalnotorowych	Diagram B. Live loads for bridge structures on narrow-gauge railway lines with a track gauge of 750 mm, on which transporters carrying standard-gauge railway wagons operate
węglarka qw	coal wagon qw
transporter	transporter

Figure 4.3. Load diagrams for bridge structures for structural design calculations.

3. For embankments up to 6 m high, the slopes at the abutments with parallel wings have a gradient of 1:1 along the wing wall; for higher embankments, the gradient of the lower part of the slope, within 6 m of the track edge, is 1:1.25. The wings of the abutments at the level of the track shall enter the embankment at least for a length of 0,30 m.

4. Horizontal bridge lights shall be designed in such a way as to ensure the free and safe flow of water.

§ 73. 1. On bridges and viaducts, where the embankment height exceeds 2.50 m, access points (stairs) shall be provided, with at least one at each end of the structure.

2. On bridges with a horizontal span of at least 50 m, appropriate water level markers shall be installed in clearly visible locations.

3. On bridges and bridge abutments, handrails shall be installed:

1) when the height of the embankment exceeds 3 m;
2) when the length of the load-bearing structure of the bridge exceeds 4 m;
3) within railway stations, passing sidings and passenger stops.

4. On bridges longer than 5 m buffer stops or other devices shall be installed to protect rolling stock in the event of derailment.

§ 74. 1. In order to ensure the free and safe flow of water, in all cases where there is no need to build bridges, culverts shall be constructed.

2. Wooden culverts shall not be constructed. Reinforced concrete pipes are used to construct temporary culverts.

3. The openings of the rectangular culverts shall be at least 0.60 m wide and the openings of the pipe culverts shall have an internal diameter of at least 0.60 m. Pipe culverts longer than 12 m shall have an internal diameter of at least 0.80 m.

4. If the culvert is also used for herding cattle, the clear width of the opening must be at least 3 m, and the height from the road surface to the underside of the arch must be at least 2 m.

5. The elevation of the rail foot above the arch surface in non-concrete and arched pipe culverts shall be at least 0.65 m, and in flat and concrete-lined pipe culverts – at least 0.30 m.

PART V

Railway structures on broad-gauge lines

Chapter 1

General conditions

§ 75. For matters not regulated by this chapter, the provisions of Part III shall apply mutatis mutandis.

Chapter 2

Guideway

§ 76. 1. The width of the rail track shall be measured on a straight section 13 mm below the top surface of the rail head. The nominal width for the newly built broad-gauge railway line shall be 1 520 mm. For a newly constructed broad-gauge railway line, a nominal gauge of 1 524 mm is permitted.

2. On curves with radii less than or equal to 350 m, the gauge of the railway track shall be increased accordingly to the values specified in Table 5.1.

Table 5.1. Railway track gauge in curves [mm]

Curve radius (m)	Track gauge [mm]	
	1 520	1 524
track in curves with R ≥ 350	1 520	1524
track in curves 300 ≤ R < 350	1 530	1 530
track in curves R < 300	1 535	1 540

3. The widening of the track at the transition from a straight section to a curve is carried out along the entire length of the transition curve; where there is no such curve, it is carried out on the straight section adjacent to the curve, provided that the change in width does not exceed 1 mm/m.

§ 77. 1. On straight sections of railway track, the upper edges of the rail heads on both rails are at the same level.

2. On straight sections it is possible to lay one rail higher than the other by 4 mm over the entire length of the section. If this section includes bridges with track sleepers where trains run on the upper deck, and the bridges are less than 25 m long, the same difference in the elevation of the rails is maintained on these bridges.

3. It is prohibited to use a fixed difference in the position of the rails in tunnels, on bridges 25 m in length and on their approaches, and at turnouts.

4. On double-track lines, the outer rails are positioned higher than the inner rails.

§ 78. 1. On curves with a radius of 4 000 m or less, the outer rail is raised relative to the inner rail by a cant (h) calculated using the following formula:

$$\frac{12.5 \cdot V_{max}^2}{R} - \frac{s}{g} \cdot a_{dop} \leq h \leq \frac{12.5 \cdot V_t^2}{R} + \frac{s}{g} \cdot a_t$$

where:

h – is the cant value [mm],

V_{max} – is the maximum speed of railway vehicles without a centrifugal force compensation system [km/h],

R – is the radius of the curve [m],

s – is the track gauge of a railway line [mm],

V_t – is the average speed of the slowest regularly running railway vehicles [km/h],

g – is the gravitational acceleration = 9.81 [m/s^2],

a_{dop} – is the permissible value of the unbalanced centrifugal acceleration, which is 0.7 [m/s^2],

a_t – is the permissible value of the unbalanced centrifugal acceleration as specified in Table 5.1 [m/s^2].

Table 5.1. Permissible values of unbalanced centrifugal acceleration a_t

Freight volume [Tg/year]	a_t [m/s^2]
0 ≤ T<5	0.72
5 ≤ T<10	0.62
10 ≤ T<15	0.52
15 ≤ T<20	0.42
T ≥ 20	0.32

2. The cant on the curve shall be no more than 150 mm.

3. On double-track and multi-track broad-gauge railway lines situated on gradients, where the speed of trains in different directions may vary, the cant value shall be calculated for each direction separately. If in the curve the cant on the inner track is less than the cant on the outer track, the structure gauge shall be taken into account to determine its value.

4. On station tracks located in curves where the running speed does not exceed 25 km/h, the cant is not applied.

§ 79. 1. The connection of curved tracks to straight tracks, and the connection of curved tracks with different radii, is achieved by means of transition curves.

2. A transition curve is not required for the following connections:

1) a straight section with a curve with a radius greater than 3 000 m;

2) A curve of radius R_1 with a curve of radius R_2, where the difference in curvature satisfies the following inequality:

$$\left|\frac{1}{R_1}-\frac{1}{R_2}\right|\leq\frac{1}{3000}$$

3. The length of the transition curve is determined as follows:

1) when connecting a straight section with a curve on a single-track broad-gauge railway line or on a multi-track broad-gauge railway line, the calculation for the outer track is made using the following formula:

$$l=h\geq l_{dop}$$

where:

l – is the length of the transition curve [m],

h – is the cant value [mm],

l_{dop} – is the minimum length of the transition curve according to Table 5.2;

2) on a multi-track broad-gauge railway line, when connecting a straight section to a curve, for the inner track whilst simultaneously widening the inter-track space, the calculation is made using the following formula:

$$l_{¿}=\sqrt{24\,R\cdot d_m+l_{out}^2}\geq l_{dop}$$

where:

l_{in} – is the length of the transition curve [m],

R – is the value of the curve radius [m],

d_m – is the inter-track space widening [m]

l_{out} – is the length of the transition curve on the outer track [m],

l_{dop} – is the minimum length of the transition curve according to Table 5.2.

Table 5.2. The lengths of the transition curves

Value of the curve radius [m]	Minimum length of the transition curve [m]
R ≥ 1 500	30
1 000 ≤ R < 1 500	40
710 ≤ R < 1 000	50
R < 710	60

3) for the connection of two curves of the same direction, where the difference in their radii is greater than 1:3 000, the calculation is made using the following formula:

$$l = \Delta h \geq 30\,m$$

where: l – is the length of the transition curve [m],

Δh – is the cant difference on the curves [mm].

§ 80. 1. To achieve the required cant on the circular section of a curve, a cant ramp is constructed along the entire length of the transition curve; if there is no transition curve, it is constructed on the straight section adjacent to the curve.

2. The gradient of the ramp must not exceed 1:1000; however, in difficult terrain, the gradient may be increased to 3:1000.

§ 81. 1. When constructing cant ramps for two curves situated close to one another, to the length of the straight track section between the curves:

1) an adjustment is made to the length of the straight section between the cant ramps, which must not be less than 25 m;
2) the gradient of the ramps is increased to 3:1000 if the length of the straight section between the ramps is less than 25 m;
3) cant is created along the entire length of the straight track section if the length of the straight section between the ramps is still less than 25 m, provided that:
   a) this cant is equal to the cant in the curve if the radii of both curves are the same,
   b) if the radii of both curves are different, the greater cant is gradually reduced over the entire length of the straight section until it reaches the value of the smaller cant.

2. If curves in the same direction but with different radii are connected by a transition curve, the cant ramp (from greater to lesser cant) and any widening of the track are carried out along the length of this transition curve. If there is no transition curve, the cant ramp and widening are carried out on a curve with a larger radius.

3. For curves of various radii, the required length of the straight track section between the ramps is 25 m, although the following is permitted:

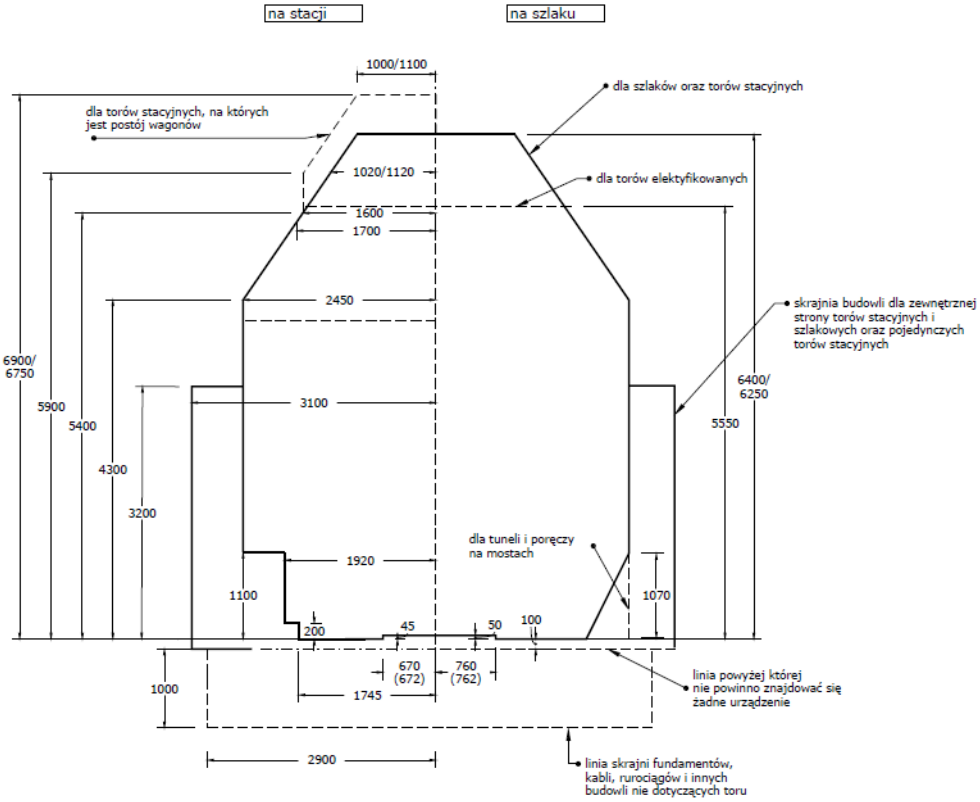
1) reducing the length of the insert to 15 m;
2) increasing the gradient of the ramps to 3:1000;
3) moving the beginning of the ramp so that at the beginning of the curve the cant is equal to half the value of the cant on the curve.

§ 82. When connecting a straight section of track with a 4 mm difference in the position of the rails to a curved section of track, the cant ramp is constructed taking into account the difference in the position of the rails on the straight section.

Chapter 3

Structure gauge

§ 83. 1. Railway structures and equipment located on broad-gauge railway lines comply with the structural gauge requirements shown in Figure 5.1.



Uwagi: Wymiary z "/": licznik - zawieszenie sieci na lince nośnej
mianownik - zawieszenie sieci bez linki nośnej

Na stacji	At the station
Na szlaku	On the route
Dla szlaków oraz torów stacyjnych	For routes and station tracks
Dla torów stacyjnych, na których jest postój wagonów	For station tracks on which wagons are parked
Dla torów elektyfikowanych	For electrified tracks

Skrajnia budowli dla zewnętrznej strony torów stacyjnych i szlakowych oraz pojedynczych torów stacyjnych	Structure gauge for the outer side of station and route tracks, and single station tracks
Dla tuneli i poręczy na mostach	For tunnels and railings on bridges
Linia powyżej której nie powinno znajdować się żadne urządzenie	Line above which no device should be placed
Linia skrajni fundamentów, kabli, rurociągów i innych budowli niw dotyczących toru	The gauge lines of foundations, cables, pipelines and other structures not relating to the track
Uwagi: Wymiary z „/”: licznik – zawieszenie sieci na lince nośnej mianownik – zawieszenie sieci bez linki nośnej	Notes: Dimensions with ‘/’: numerator – suspension of the grid on a supporting cable; denominator – suspension of the grid without a supporting cable

Figure 5.1. Structure gauge for railway tracks with a width of 1 520 (1 524) mm.

2. The distance between track centres on straight sections of double-track broad-gauge railway lines is not less than 4 100 mm.

3. For distances between track centres in curves with radii of less than 4 000 m the structure gauge shall be increased by the values specified for the structure gauge of standard-gauge railway lines.

4. The distance between the centres of the station tracks on straight sections shall be no less than 4 800 mm; however, this distance may be reduced to 4 500 mm in the case of transhipment tracks, shunting tracks and tracks of lesser importance to the operation of the station. The distance between the centres of railway tracks intended for the direct transhipment of goods from wagon to wagon may be reduced to 3 600 mm.

5. The distance between the centres of the primary main tracks running outside the track layout of a railway station may be equal to the distance between those centres on the route.

Chapter 4

Designing the layout of railway tracks at railway stations

§ 84. 1. Turnouts laid into station main railway tracks allow for the passage of trains in a straight line at a speed no lower than on adjacent routes.

2. Turnouts and crossings of railway track shall correspond to the types of rails laid in the track adjacent to the turnout.

§ 85. 1. Turnouts installed on primary and secondary main tracks shall have a gradient of no more than 1:9.

2. It is prohibited to install turnouts in the main station tracks on curves on lines where trains are expected to travel at speeds of at least 100 km/h.

3. It is prohibited to install cross turnouts on main station tracks on lines where trains are expected to travel at speeds exceeding 70 km/h.

§ 86. 1. When installing two turnouts with identical skew and radius on the main arrival and departure tracks, with their point ends facing each other and branches extending to both sides of the straight track, a straight track section of at least 12.50 m in length must be maintained, and if this is not possible, not less than 6.25 m. The track width along the length of the insert is the same as at the rail joints.

2. Straight track inserts may not be used at railway stations undergoing reconstruction if the distance between the points of adjacent turnouts of the same type and the skew is not less than 8.66 m.

3. The straight track inserts referred to in paragraphs 1 and 2 need not be used when installing turnouts in other station tracks.

4. When installing two consecutive turnouts, the length of the straight track insert in the arrival and departure tracks between the turnouts shall be no less than 12.50 m, and in other tracks, and if this is not possible, no less than 6.25 m.

5. When installing adjacent symmetrical turnouts with a 1:6 gradient on arrival and departure tracks used exclusively for freight traffic, the length of the straight track insertion between the turnouts shall be no less than 7.46 m, on other railway tracks – not less than 6.25 m, and if this is not possible – not less than 4.50 m.

6. When laying adjacent turnouts made of different types of rail in the cases referred to in paragraphs 1 to 5, a straight track insert with a length of not less than 12.50 m shall be used.

PART VI

Ancillary railway structures

Chapter 1

Facilities for travellers

§ 87. 1. Depending on the technological needs of traffic management and passenger service, the following shall be determined when designing platforms and passenger stops:

1) the number of platforms and the number of platform edges;
2) the layout of the platforms, determined by their position in relation to the railway tracks;
3) the access routes to the platforms;
4) the length and width of the platforms;
5) accessibility for people with disabilities and those with reduced mobility, as well as provision of access for people with special needs.

2. Platforms shall not be located on railway tracks with gradients greater than 6 ‰ and on passenger stops with gradients greater than 10 ‰.

3. Platforms shall not be situated alongside railway tracks on which trains travel at speeds exceeding 200 km/h, except where technical and operational measures have been put in place to ensure that access from the platform to the train is only possible when the train is stationary.

4. The distance between the platform edge and the centre of the track is designed in accordance with the requirements for the structure's gauge.

5. The platform height is either 760 mm or 550 mm above the rail head, depending on the type of railway vehicle stopping at all new or modernised platforms of the railway line concerned.

6. For platforms with a height of 760 mm, the design distance of the platform edge from the track centre shall be calculated according to the formula, taking into account the influence of curves and cant, with the result rounded up to the nearest 5 mm:

$$X = X_{GSZ} + S \pm \Delta b_D$$

where:

X – is the designed distance between the edge of the platform and the centre of the track,

X_{GSZ} – is the maximum structure gauge, excluding the influence of curves and cant, expressed in millimetres, which is the sum of the maximum structure gauge and the widenings facilitating operation and maintenance,

S– is the widening of the structure gauge due to the designed horizontal curves, expressed in mm; it is calculated using the formula:

$$S=\frac{3750}{R}$$

where:

R – radius of the horizontal curve [m],

Δb_D – the effect of the cant [m], which is calculated using the formula:

$$\Delta b_D=\frac{h_q \cdot D}{\sqrt{1500^2-D^2}}$$

where:

h_q – is the platform height [mm],

D – the designed cant [mm].

7. The minimum length of the platform is 50 m.

8. In determining the width of the platform, account shall be taken of the width of:

1) the danger zones at each edge of the platform;
2) obstacle-free routes;
3) the usable area, the dimensions of which are adapted to the planned layout of the platform and the estimated number of passengers.

9. The width of the platform referred to in paragraph 8 shall be no less than:

1) 2.50 m – for single-edge platforms;
2) 3.30 m – for double-edge platforms.

10. The danger zone, within the meaning of the PRM TSI, is defined as a fixed-width strip adjacent to the edge of the platform, ensuring access to the train, which is no less than:

1) 0.75 m – for platform edges where all trains stop or where the speed of a train without stopping does not exceed 60 km/h;
2) 1 m – for platform edges where trains may pass without stopping at speeds of more than 60 km/h and less than or equal to 140 km/h;

3) 1.50 m – for platform edges where trains may pass without stopping at speeds of more than 140 km/h and less than or equal to 200 km/h.

11. The danger zone shall be marked by:

1) a tactile warning strip located directly adjacent to the danger zone, with a fixed width of not less than 0.40 m and not more than 0.60 m;

2) a warning strip of contrasting colour, with a constant width of not less than 0.10 m and not more than 0.20 m, in yellow or another colour contrasting with the colour of the platform surface, located on the surface of the danger zone at its boundary with the tactile warning strip.

12. The tactile warning strip consists of uniform raised markings with the following parameters:

1) each raised marking is in the form of a truncated cone or sphere:
   a) with a height of not less than 5 mm and not more than 8 mm,
   b) and a base diameter of not less than 30 mm and not more than 40 mm;

2) the markings have anti-slip properties and are arranged in a rectangular grid with side dimensions of not less than 60 mm and not more than 120 mm.

13. Tactile warning strips shall also be used to mark areas where there are architectural barriers or other obstacles along the route, in particular stairs.

14. A warning line at least 0.05 m wide shall be applied to the edges of the first step leading upwards and the first step leading downwards, on the horizontal and vertical surfaces of these steps, on every staircase.

15. The minimum unobstructed platform width is 1.60 m, except at the ends of the platform, where the width may be reduced to 0.90 m provided there are no structures in the way.

16. Within the obstacle-free route on the platform, the following may be situated:

1) shelter supports and other posts not exceeding 1 m in length, spaced at intervals of not less than 2.40 m, provided that their distance from the danger zone is at least 0.80 m or more;

2) permanent structures not exceeding 10 m in length, provided that their distance from the danger zone is at least 1.20 m or more, and their distance from the edge of the platform is at least 2 m or more.

17. The surface of the platform shall have non-slip characteristics also under damp conditions and shall be laid with a lateral drop in the direction of the platform axis of 1-3 %. The value of the drop in the danger zone shall not exceed 1 %.

18. For the strength calculations of the platform surface, a continuous load of 0.5 Mg/m^2 shall be assumed, representing the weight of people on the platform.

19. At railway stations and passenger stops, shelters are being constructed to provide passengers on the platform with protection from the elements, taking into account the existing or planned locations of underpasses and overpasses across the tracks or access routes to the platform, whereby:

1) the width of the shelter shall take into account the requirements of the structure gauge;
2) the design of the shelters shall be adapted to the surroundings and the character of the station building and the structures located on the platform;
3) rainwater shall be drained from the shelter into the sewerage system or drainage ditches via downpipes;
4) the shelter shall not obscure the visibility of railway signals and indicators;
5) on electrified lines, a shelter made of electrically conductive materials shall be connected to the DC return circuit (rail-connected) or earthed in the case of an AC traction system (earthed).

20. A safety barrier is installed at the end of the platform; where this is not possible, visual and tactile markings are provided as an alternative to a physical barrier.

21. Transparent obstacles within or along routes used by passengers shall be marked in a colour that contrasts with their surface and the surrounding area. Marking shall not be required where travellers are protected from contact with transparent obstacles by other means, in particular by handrails or continuous rows of benches.

§ 88. 1. The platforms are connected to the station building or the outdoor area by special, clearly marked access routes.

2. The access routes from the railway station building or the outdoor area to the platforms are as short as possible. Where possible, the flow of arriving and departing passengers is separated, and the underpasses, overpasses and access routes to the platforms allow passengers to leave without passing through the station building.

3. Where possible, cycle traffic is separated from pedestrian traffic.

Chapter 2

Underpasses and overpasses, access to platforms

§ 89. 1. On railway lines, it is possible to construct underpasses and overpasses intended exclusively for pedestrian or cycle traffic, or for both pedestrians and cyclists, as well as access routes to platforms at track level. The conditions specified for Category E crossings apply to access to platforms at track level, referred to in the regulations on the technical conditions to be met by railway line crossings and railway sidings with roads and their location, and the technical conditions for their use, issued pursuant to Article 7(2)(2) and (3)(2) of the Act of 7 July 1994 – Construction Law.

2. The width of the access route to the platform at track level complies with the PRM TSI requirements.

3. The access to the platform, along its entire length, is level with the rail head and constructed from non-combustible materials, providing an even, rough and durable surface.

4. Access to passenger platforms shall ensure safe passage for persons with disabilities and persons with reduced mobility, including blind or visually impaired people.

5. Level crossings across more than three railway tracks, level crossings where the speed of passing trains exceeds 15 km/h, and level crossings where approaching trains are not visible, shall be secured by barriers that close whilst a train is passing, and shall be fitted with light and sound signals.

6. Unmanned level crossings leading to platforms shall be secured by labyrinth barriers installed at the approaches to the crossings, with a height of not less than 1.25 m and a width of 1.60 m, which require users to look out for approaching trains and ensure a clear view of approaching trains.

§ 90. 1. Underpasses beneath railway tracks are provided as the primary solution for ensuring access to platforms on the opposite side of the tracks on railway lines where trains travel at speeds of 100 km/h or more.

2. The location of underpasses beneath the railway tracks is determined by an analysis of transport routes within the railway area and its surroundings.

3. The width of the underpass under the tracks depends on the volume of pedestrian traffic during peak hours and shall be at least 3 m, whilst the height, measured from the highest level of the floor in the traffic lane, shall be at least 2.40 m.

4. The design of the underpass beneath the railway tracks meets the following conditions:

1) groundwater in the vicinity of the underpasses is drained away from the underpass or its level is lowered; where groundwater cannot be drained away, the underpass structure is protected by a watertight waterproofing layer extending at least 0.50 m above the highest anticipated groundwater level;
2) drainage is installed along the walls at a depth sufficient to allow for the drainage of the walls;
3) the surface of the underpass is sloped towards the drains to allow water to flow by gravity into the drainage wells;
4) the entrances to the underpasses are protected against the ingress of precipitation;
5) the surface of the underpass is slip-resistant.

§ 91. 1. If it is not possible to construct an underpass beneath the railway tracks, or if the layout of the transport network and the height of the structure and its surroundings justify such a solution, pedestrian overpasses are constructed over the railway tracks, hereinafter referred to as ‘footbridges’.

2. The width of the footbridge, taking into account pedestrian traffic during peak hours, shall be at least 3 m.

3. The distance between the underside of the footbridge and the rail head is determined by the structure gauge applicable to the railway line in question, taking into account the electrification of the line and transport of goods with the crossed gauge of the rolling stock.

4. Footbridges are constructed exclusively from non-combustible materials.

5. The extra load for the case of one-sided breakage of the supporting line shall be taken as a concentrated force of 16 kN.

6. The cross-track supports of footbridges and their foundations shall not be located in the structure gauge at a depth of 1.50 m below the railhead at a distance of 2.20 m from the track centre.

7. Footbridges over electrified railway lines shall be equipped with electrical protection devices. To this end:

1) on both sides of the footbridge, solid vertical screens shall be installed, with a height of at least 1 m from the level of the footbridge deck and projecting at least 1 m beyond the outermost live component of the overhead contact line;
2) all footbridge components made of electrically conductive materials, located less than 5 m from the centre of the electrified railway track, shall be connected to the DC return circuit (rail-connected) or to earth in the AC traction system (earthed).

8. The structure or equipment of the footbridge shall prevent rainwater from flowing from the footbridge onto the overhead contact line. The underside of the footbridge shall have devices to prevent the flow of rainwater from the footbridge to the overhead contact line.

9. The surface of the footbridge platform shall be resistant to abrasion and made of materials of high roughness, even when exposed to moisture.

§ 92. 1. The steps are of uniform height, have a uniform surface area and are no more than 15 cm high, whilst their width must satisfy the condition that it is 65 cm minus twice the height of the step ($S = 65 - 2 \times H$). Steeper staircases are permitted, provided that the height of the steps does not exceed 16 cm and the width of the steps is between 29 cm and 33 cm.

2. The width of the stairs forming an extension of the underpass or footbridge shall be no less than the width of the railway underpass or footbridge.

3. Underpasses and footbridges beneath railway tracks shall be fitted with ramps or self-service lifts accessible to all, to enable their use by people with disabilities, people with reduced mobility and people with special needs.

4. Ramps shall have a width of at least 1.60 m between handrails. Where ramps are provided as an alternative to stairs and are situated in their immediate vicinity, a width of 1.20 m at floor level is permitted, whilst maintaining a width between handrails of between 1 m and 1.10 m. Ramps for pedestrian use and for disabled people and people with reduced mobility that are longer than 9 m shall be divided into shorter sections, using landings at least 1.40 m long.

5. The use of a pavement with a slope not exceeding 6 % is permitted.

6. Ramps shall comply with the requirements set out in the technical and construction regulations applicable to public roads.

7. On stairways leading to railway facilities where there are no access routes in the form of pavements or ramps, it is permissible to install facilities to facilitate the transport of

bicycles, such as channels or guides. These solutions must not reduce the minimum effective width of stairways, which is 1.60 m, nor must they pose a hazard to passengers, including those with disabilities and those with reduced mobility.

Chapter 3

Facilities for freight transport

§ 93. 1. Railway stations where goods are handled, depending on the scope and volume of transport operations, may be equipped with stationary and mobile handling equipment, as well as other equipment and facilities necessary for carrying out specialist handling operations.

2. The railway stations referred to in paragraph 1 have track layouts connecting freight tracks with main tracks, designed to facilitate shunting operations relating to the handling of loading points, the accumulation of wagons, the stabling of wagons, and the coupling and uncoupling of groups of wagons from and to freight trains, and may have tracks for the stabling of wagons carrying dangerous goods.

§ 94. 1. Loading bays are designed for the transhipment of goods between one wagon and another, or between a wagon and a road vehicle, a seagoing or inland waterway vessel, a conveyor or belt system, and for the storage of bulk goods carried as full wagon loads, including containers, which do not require protection from the elements.

2. The minimum width of the loading bay is 4 m.

3. The loading bays are bounded on the railway track side by kerbs situated 1.60 m from the centre of the track and rising to a height of 0.30 m above the top of the rail.

4. The surface of the loading bays is paved, with a load-bearing capacity designed to withstand the axle loads of vehicles and the weight of the goods stored there.

5. The surface of the loading bays has a slope of between 1 % and 3 % intended for the drainage of rainwater. Rainwater is drained into the sewerage system or, if there is no such system, into drainage ditches. It is prohibited to slope the loading bay in the direction of the railway track.

6. Loading bays shall be equipped with:

1) lighting equipment;

2) electrical installations for the connection of transhipment equipment.

§ 95. 1. Loading ramps are designed for the handling of heavy goods, vehicles, machinery and equipment, as well as livestock.

2. The side ramps shall have a height corresponding to the height of the wagon floor and the front ramps shall have a height that allows loading over the wagon buffers.

3. At railway stations where the transhipment of road trailers in combined transport is planned, the height of the loading ramp is adjusted to match the floor height of wagons designed for combined transport.

4. Depending on their intended use, ramps are classified as follows:

1) single-sided ramps – with the edge adjacent to the track and an access ramp with a gradient of 1:5 and a minimum loading width of 4 m on the ramp surface; a single-sided ramp has a 5 % gradient from the edge towards the access ramp;
2) double-sided – with edges on both sides and a loading area at least 4 m wide.

5. The length of the ramp shall be no less than 16 m. The ramp may be situated along the entire operational length of the freight railway track.

6. The ramp surfaces are hardened to adequate strength and constructed with a gradient that allows rainwater to drain into a ditch or into a sewage system.

7. The retaining walls of the front ramps are secured with an energy-absorbing beam at the height of the buffers.

8. Lighting fixtures are being installed on the ramps.

§ 96. 1. For the operation of loading points located at the locations referred to in § 93–95, a group of railway stabling tracks at a railway station shall be set up, on which wagons shunted to the loading points and wagons from the loading points awaiting inclusion in the train formation shall be assembled.

2. To enable wagons to be shunted from the train onto stabling tracks and from stabling tracks to loading points, and vice versa, the railway station's track layout includes a haulage track and, where necessary, connecting tracks. The length of the haulage track shall be greater than the total length of the group of wagons being moved at any one time, plus the length of the shunting locomotive and the braking distance required for that train to come to a halt from a speed of 20 km/h.

3. Along the stabling tracks, the construction of paths, posts, signals and, where necessary, service roads shall be envisaged in the spaces between the tracks.

4. Loading points where significant quantities of full-wagon loads are transhipped shall be equipped with:

1) wagon scales – situated on a separate track excluded from shunting routes, connected to the track layout of the loading point; the track on which the weighbridge is built shall be laid level and straight, extending for a length of at least 50 m on both sides of the weighbridge; the weighbridge mechanism shall be separated from the track surface to allow the movement of locomotives and wagons when the weighbridge is out of service; the load-bearing capacity of the weighbridge corresponds to the maximum gross weight of the wagons, and the length of the platform corresponds to the wheelbase of the longest railway wagon;
2) the clearance gate, the gate of which is positioned on the loading or weighing track, and the railway track over a length of 15 m on either side of the clearance gate is laid out in a straight line.

§ 97. 1. Railway sidings are connected to railway station tracks. It is permissible to connect a railway siding to the route track, provided that the junction is protected by a safety track.

2. At railway stations serving sidings, a group of handover tracks is designated for the transfer of wagons to the siding and the collection of wagons from the siding, as well as for preparing them for inclusion in the train. Where trains enter a railway siding (up to the point where the railway siding infrastructure meets the infrastructure of the infrastructure manager, as a train, and thereafter as a shunting movement), the handover tracks are treated as main tracks.

3. Works railway tracks shall comply with the technical and construction conditions of siding railway tracks.

Chapter 4

Railway rolling stock maintenance facilities

§ 98. 1. At railway stations where locomotives are changed and trains finish or begin to be operated by traction, there are locomotive depots or groups of stabling tracks.

2. Locating the locomotive depot in the vicinity of a railway station or junction ensures the shortest possible, collision-free connection to the arrival, departure and stabling tracks of

a passenger station, and to the arrival and departure tracks of a freight station. The locomotive depot is situated on flat ground.

3. The locomotive depot comprises the main building with railway tracks, an inspection and repair hall, workshops, storage areas, administrative and staff facilities, storage areas for flammable materials, inspection points and outdoor storage areas.

4. The layout of the railway tracks and the positioning of the locomotive depot's facilities ensure that locomotives can move without collision whilst carrying out their scheduled operations, and allow them to bypass the facilities whilst in motion.

5. The lengths of the individual railway tracks are adapted to the operational requirements of the locomotive depot.

6. The inter-track spaces in the locomotive depot allow for the provision of 3.60 m wide service tracks or 1 m wide paved paths, as well as the necessary equipment, whilst complying with the structure's gauge requirements.

7. The guideway of the railway tracks of the depots shall conform to station side track standards.

§ 99. 1. Railway stations which handle a large number of wagons may be equipped with wagon depots where ongoing repairs to wagons are carried out.

2. The location of the wagon depot within the railway station shall provide the shortest possible and collision-free connection to the directional tracks of the freight railway station or the stabling tracks of the passenger railway station. The site of the wagon depot is flat.

3. The track layout of a wagon depot may include tracks for wagons awaiting repair – repair and inspection tracks, for wagons after repair – bypass and communication tracks, haulage tracks, weighing tracks, tracks for wheelset storage and storage tracks.

4. The length of the railway tracks referred to in paragraph 3 shall be adapted to the operational requirements of the wagon depot.

5. The inter-track spaces in the wagon depot allow for the provision of 3.60 m wide service tracks or 1 m wide paved paths, as well as the necessary equipment, whilst complying with the structure's gauge requirements.

6. The guideway of the railway tracks of the wagon depot shall conform to the technical conditions for station side tracks.

Chapter 5

Rail traffic signalling structures and equipment

§ 100. 1. Technical devices relating to the control of railway traffic, hereinafter referred to as 'signalling equipment', depending on their functions, shall be:

1) directly into the structural components of the railway track, or
2) located on the track or embedded in the substructure, or
3) located in specially designed buildings (signal boxes), containers or other facilities complying with the requirements appropriate to the type of signalling equipment used.

2. The signalling equipment shall be installed outside the structure gauge.

3. The signalling devices referred to in paragraph 1(1) must not impair the structural strength of a railway element, reduce the service life of the railway, or cause changes in the conditions of wheel-rail interaction.

4. The signalling equipment referred to in paragraph 1(2) shall be located in such a way that it does not hinder the maintenance and repair of the railway line or interfere with the drainage system of the railway line.

5. The signalling equipment referred to in paragraph 1(3) shall be located in fire-separated rooms.

§ 101. 1. Railway infrastructure components that interact directly with signalling equipment and influence the reliability of the operation of the system:

1) shall have the required electrical characteristics;
2) shall be isolated from the ground;
3) shall be of sufficient durability and resistance to deformation and damage;
4) shall be made of a material with suitable physical and chemical properties for the operation of the track guideway and the control and command system.

2. When installing signalling equipment that forms part of the guideway, permanent damage to the track structure must not be caused.

3. The works carried out in the railway track shall not interfere with the existing signalling equipment and shall not interrupt the cable connections. Where signalling equipment is dismantled for the duration of track works, it is reinstalled before trains are permitted to run.

§ 102. 1. The guideway in the tracks and in the turnouts ensures proper interaction with the signalling equipment.

2. The following shall apply to the construction of railway tracks on which track circuits will be installed:

1) a ballast of hard rock, with a layer thickness specified by the relevant track standard and amounting to at least 0.20 m, beneath the sleepers in the centreline of the track at the highest point of the substructure;
2) wooden sleepers or switch sleepers impregnated without pre-drilled holes;
3) concrete sleepers and switch sleepers with plastic dowels or other design solutions to ensure adequate insulation of the rails from the sleepers;
4) sleepers and switch sleepers in a dry state with a resistance of not less than 50 kΩ (kiloohms) measured between the sleepers - for insulated tracks; under operating conditions the value of the resistance of the substructure may not be less than 2 Ωkm (ohmic kilometres).

3. In railway tracks and insulated sections of tracks, steel sleepers and switch sleepers as well as anti-creep drags shall not be used.

4. Railway tracks and insulated sections of tracks shall have drainage.

§ 103. 1. Turnouts shall be equipped with safeguards against the switching of points during the passage of the railway vehicle.

2. Points over which railway vehicles pass shall be integrated into the system of signalling equipment.

Chapter 6

Telecommunications structures and equipment

§ 104. 1. Telecommunications equipment, radio equipment, network connections and information systems authorised for use shall ensure communication between its users or devices.

2. The equipment and systems referred to in paragraph 1 must not interfere with the operation of other railway infrastructure systems, and their location must not contravene the applicable regulations on structure gauges and railway safety.

3. Connections of telecommunications equipment between elements of the railway infrastructure shall be designed in such a way as to ensure resistance to interference and continuity of data transmission, in particular for signalling.

4. In cases where radio equipment is used, electromagnetic compatibility with railway infrastructure equipment shall be ensured.

5. The railway radio communication network is an integral part of the railway telecommunications network.

Chapter 7

Non-traction power supply equipment and technical networks

§ 105. 1. Railway buildings, depending on their purpose, are equipped with:

1) non-traction electrical power installations and equipment;
2) heating installations;
3) gas installations;
4) water supply and sewerage installations;
5) compressed air installations, air conditioning;
6) fire-fighting installations and equipment.

2. Underground installations and equipment have protection against the effects of stray currents from the traction DC system and electromagnetic fields from the AC system.

§ 106. 1. Electrical lighting equipment located in the railway area and in railway buildings shall ensure that:

1) the uniformity of illuminance is maintained;
2) the correct colour of light is selected to suit the purpose of the facility, its colours and design;
3) the safety of railway operations.

2. Power supply to external lighting points located near railway tracks is provided by underground cable lines.

§ 107. Electricity cable lines running along railway tracks shall be laid either in covered cable ducts or directly in the ground. The location of the cables shall be permanently marked.

§ 108. 1. The location of the water supply and sewerage network in the railway area shall ensure access to the network facilities without disrupting transport operations,

technological activity or interfering with access and use of railway facilities. When designing a network running parallel to a railway line, the distance from the boundary of the adjacent strip of land shall be at least 5 m.

2. Where a railway structure is situated in the immediate vicinity of a water supply network or crosses such a network, the water supply network shall be fitted with a shut-off valve at the boundary of the railway area, enabling the water supply to be shut off in the event of failure of the network or of water appliances connected to the network.

§ 109. Where a railway structure is situated in the immediate vicinity of power lines or crosses such lines, the power lines shall comply with the following conditions:

1) the power lines shall not infringe the structure gauge of the railway lines, shall not obstruct railway signals and indicators, and shall not cause interference with signalling and traffic control circuits;
2) the location of the power lines shall not hinder the operation of railway traffic, the maintenance and operation of railways and other railway equipment;
3) the intersection of a power line with a railway line shall be carried out along the shortest route; the angle of intersection of a power line with a railway line shall be between 60° and 90°, with a recommendation to use an angle of 90°;
4) the intersection of underground power cable lines shall be arranged in cable culverts at a depth of at least 1.50 m from the upper running surface of the railhead and 0.50 m from the bottom of the drainage ditch;
5) low-voltage power lines and telecommunications lines crossing a railway line shall be cabled and routed under the line; on non-electrified railway lines, it is possible to construct an overhead crossing of the railway line with a low-voltage power line, whereby the distance from the rail head to the power line is determined by the structure gauge applicable to the railway line in question, including the carriage of goods, with the rolling stock exceeding the gauge;
6) for crossings of power lines with electrified railway lines, the vertical distance (h) between the power line cables and the overhead contact line cables (contact wires, support wires, feeder wires) shall be at least:
   a) when crossing a 1 [kV] to 110 [kV] line:

$$h = 2 + \frac{U}{150}[m]$$

b) when crossing a line with a voltage higher than 110 [kV]:

$$h = 2.5 + \frac{U}{150}[m]$$

where:

h – is the vertical distance [m],

U – is the rated voltage of the power line [kV].

§ 110. Crossings of water pipelines, sewer pipelines, district heating pipelines, gas pipelines, water facilities and water drainage facilities, hereinafter referred to as 'pipelines', with a railway line shall comply with the following conditions:

1) the crossing of a pipeline with a railway line shall be carried out along the shortest route; the angle of crossing shall be between 60° and 90°, with a recommendation to use an angle close to 90°;
2) the angle of crossing of the pipeline with the railway tracks carried out in a tunnel with an aboveground of more than 10 m shall be close to 90°, but not less than 30°;
3) the angle of crossing of a pipeline with railway tracks running on a railway engineering structure (viaduct, flyover) shall be close to 90°, but not less than 30°;
4) pipelines running under railway tracks, with the exception of gas networks, shall be laid in protective pipes, casing pipes or culverts, respecting the requirements of the structure gauge, so that they can be repaired or maintained in a way that does not cause interference in railway vehicle traffic; for water, heat and sewage pipelines the ends of the protective pipe shall be inserted into an inspection manhole or chamber;
5) protective and casing pipes or culverts, as referred to in point 4, shall be laid at a depth of at least 1.50 m from the rail head and 0.50 m from the bottom of the lateral ditch draining the railway track; protective and casing pipes shall be protected against electrolytic corrosion;
6) at the entrance and exit of the pipeline, with the exception of the gas pipeline, railway inspection manholes or chambers should be constructed, taking into account the possibility of extension or modernisation of railway equipment;

7) it is permitted to construct a free-standing above-ground crossing between a district heating or water supply pipeline and a railway line;

8) subject to the consent of the viaduct owner and infrastructure manager, it is possible to cross a pipeline with a railway line by incorporating the pipeline into a road viaduct over a railway line.

PART VII

General technical and operational requirements for non-conventional railway structures

§ 111. 1. Non-conventional railways are railways where:

1) the railway vehicle travels on a non-rail surface while maintaining the requirement that the track is linked to the vehicle by a special design of the vehicle's running gear and the track;

2) the railway vehicle does not have drive wheels that use adhesion and friction to convert the torque generated by the traction motor into forward motion.

2. Non-conventional railways include vehicles for the transport of passengers or goods that run on a single rail, on air cushions or magnetic cushions, as well as the associated technical equipment, other than that used in conventional rail transport and cableway transport.

§ 112. 1. Non-conventional railways authorised to carry passengers must meet the conditions set out in Part II and VI.

2. The safety factor of the structural load-bearing components of non-conventional railways shall be at least 3,0.

PART VIII

Transitional provision and final provision

§ 113. To railway structures regarding which the following takes place before the date of entry into force of this Regulation:

1) an application for a building permit, or an application for a separate decision on approval of the development of the land or premises, or an architectural and construction project, or an application for modification of a building permit, has been submitted;

2) a building permit or a separate decision approving a plot or land development project or building plans and specifications has been issued;

3) a notification of construction or of the performance of other construction works has been submitted in a situation where obtaining a building permit is not required,

4) a decision on legalisation, referred to in Article 49(4) of the Construction Law Act of 7 July 1994, or decisions referred Article 51(4) of the same Act have been issued

— current regulations shall apply.

§ 114. This Regulation enters into force on 20 September 2026).[1)]

MINISTER FOR INFRASTRUCTURE

in agreement with the:
MINISTER FOR FINANCE AND
ECONOMY

[1)] This Regulation was preceded by the Regulation of the Minister for Transport and Maritime Economy of 10 September 1998 on technical conditions to be met by railway structures and their location (Journal of Laws, item 987;of 2014, item 867, of 2018, item 1175 and of 2024, item 640), which, pursuant to Article 66 of the Act of 19 July 2019 on ensuring accessibility for persons with special needs (Journal of Laws of 2024, item 1411) is repealed with effect from the entry into force of this Regulation.