

INFRASTRUCTURE

COMMISSION REGULATION (EU) NO 1299/2014
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TECHNICAL SCOPE

- Concerns the infrastructure structural subsystem and part of the maintenance functional subsystem relating to the infrastructure subsystem of the Union rail system.
- Apply to all new, upgraded or renewed 'infrastructure' of the rail system in the EU.
- Apply to networks with the following nominal track gauges: 1435 mm, 1 520 mm, 1524 mm, 1600 mm and 1668 mm
- Metric gauge is excluded from the technical scope of this TSI.

GEOGRAPHICAL SCOPE

It applies to high-speed lines, conventional lines (both passenger and freight) and all vehicles likely to travel all or part of the Union's network (locomotives and passenger rolling stock, freight wagons and special vehicles, such as on-track machines).

It does not apply to metros, trams and light rail vehicles, privately owned railway infrastructure, infrastructure and vehicles reserved for a strictly local, historical or touristic use.

WHAT DOES IT CONTAIN?

- Introduction with the technical, risk, and geographical scopes
- Definitions of the subsystem and of the scope
- Essential requirements
- Characteristics of the subsystem, particularly the functional and technical specifications of the subsystem and of the interfaces
- Interoperability constituents
- Assessment of conformity and/or suitability for use of the constituents and verification of the subsystem
- Implementation

ASPECTS INCLUDED IN THE INF SUBSYSTEM

- Line layout
 - Structure gauge
 - Distance between track centres
 - Maximum gradients
 - Minimum radius of horizontal curve
 - Minimum radius of vertical curve
- Track parameters
 - Nominal track gauge
 - Cant
 - Cant deficiency
 - Abrupt change of cant deficiency
 - Equivalent conicity
 - Railhead profile for plain line
 - Rail inclination
- Switches and crossings
 - Design geometry of switches and crossings
 - Use of swing nose crossings
 - Maximum unguided length of fixed obtuse crossings
- Track resistance to applied loads
 - Track resistance to vertical loads
 - Longitudinal track resistance
 - Lateral track resistance
- Structures resistance to traffic loads
 - Resistance of new bridges to traffic loads
 - Equivalent vertical loading for new earthworks and earth pressure effects imposed on new structures
 - Resistance of new structures over or adjacent to tracks
 - Resistance of existing bridges and earthworks to traffic loads
- Platforms
 - Usable length of platforms
 - Platform height
 - Platform offset
 - Track layout alongside platforms
- Immediate action limits on track geometry defects
 - The immediate action limit for alignment
 - The immediate action limit for longitudinal level
 - The immediate action limit for track twist
 - The immediate action limit of track gauge as isolated defect
 - The immediate action limit for cant
 - The immediate action limits for switches and crossings
- Health, safety and environment
 - Maximum pressure variation in tunnels
 - Effect of crosswinds
 - Aerodynamic effect on ballasted track
- Provision for operation
 - Location markers
 - Equivalent conicity in service
- Fixed installations for servicing trains
 - Toilet discharge
 - Train external cleaning facilities
 - Water restocking
 - Refuelling
 - Electric shore supply

ASPECTS INCLUDED IN THE MAINTENANCE SUBSYSTEM

- Maintenance rules
- Maintenance file
 - Maintenance plan

PARTICULAR CASES DEPENDING ON THE COUNTRY

They are divided in 'Permanent' and 'Temporary' cases.
Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Latvia, Poland, Portugal, Ireland, Spain, Sweden, UK, Slovakia

PERFORMANCE PARAMETERS FOR PASSENGER TRAFFIC

Traffic code	Gauge	Axle load [t]	Line speed [km/h]	Usable length of platform [m]
P1	GC	17	250-350	400
P2	GB	20	200-250	200-400
P3	DE3	22.5	120-200	200-400
P4	GB	22.5	120-200	200-400
P5	GA	20	80-120	50-200
P6	G1	12	n.a.	n.a.
P1520	S	22.5	80-160	35-400
P1600	IRL1	22..5	80-160	75-240

PERFORMANCE PARAMETERS FOR FREIGHT TRAFFIC

Traffic code	Gauge	Axle load [t]	Line speed [km/h]	Train length [m]
F1	GC	22.5	100-120	740-1050
F2	GB	22.5	100-120	600-1050
F3	GA	20	60-100	500-1050
F4	G1	18	n.a.	n.a.
F1520	S	25	50-120	1050
F1600	IRL1	22.5	50-100	150-450

What is a TSI? Is a document that defines the technical and operational standards which must be met by each subsystem or part of subsystem in order to meet the essential requirements and ensure the interoperability of the railway system of the European Union.

For each of those subsystems, the essential requirements need to be specified and the technical specifications determined, particularly in respect of constituents and interfaces, in order to meet those essential requirements. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L0797&from=EN>

This document is for information purposes only, for official information go to https://www.era.europa.eu/activities/technical-specifications-interoperability_en

In case of doubt please contact team@eimrail.org

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