



Annexes

ANNEX 3: OVERVIEW OF EU REGULATIONS AND NORMS



DB Rail Academy
by DB Engineering & Consulting GmbH

Relevant EU Regulations	
DIRECTIVE (EU) 2016/797	DIRECTIVE (EU) 2016/797 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 May 2016 on the interoperability of the rail system within the European Union (recast)
Directive (EU) 2016/798	Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety (recast)
CSM-SMS VO (EU) 2018/762	COMMISSION DELEGATED REGULATION (EU) 2018/762 of 8 March 2018 establishing common safety methods on safety management system requirements pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council and repealing Commission Regulations (EU) No 1158/2010 and (EU) No 1169/2010
CSM Supervision VO (EU) 2018/761	COMMISSION DELEGATED REGULATION (EU) 2018/761 of 16 February 2018 establishing common safety methods for supervision by national safety authorities after the issue of a single safety certificate or a safety authorisation pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council and repealing Commission Regulation (EU) No 1077/2012
CSM Risk Assessment VO (EU) 402/2013	COMMISSION IMPLEMENTING REGULATION (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009
CSM Monitoring VO (EU) 1078/2012	Commission Regulation (EU) No 1078/2012 of 16 November 2012 on a common safety method for monitoring to be applied by railway undertakings, infrastructure managers after receiving a safety certificate or safety authorisation and by entities in charge of maintenance

Technical Specifications for Interoperability (TSi)	
TSI LOC & PAS	Rolling Stock - Locomotives and Passengers TSI
TSI NOI	Noise TSI
TSI TAP	Telematics Applications for Passenger Service TSI
TSI TAF	Telematics Applications for Freight Service TSI
TSI SRT	Safety in Railway Tunnels TSI
TSI WAG	Rolling Stock - Freight Wagons TSI
TSI PRM	Persons with Disabilities and with Reduced Mobility TSI
TSI INF	Infrastructure TSI
TSI CCS	Control Command and Signalling TSI
TSI OPE	Operation and Traffic Management TSI

List of standards and regulations for maintenance.

General maintenance standards for rail vehicles

- EN 15624: Defines the maintenance documentation for rail vehicles.
- EN 15628: Describes the qualification of personnel for maintenance tasks.
- EN 15380 series: Covers the classification system for rail vehicle components, which is important for maintenance and spare parts management.
- EN 17023: Regulates the requirements for maintenance management systems for rail vehicles and describes the implementation of the ECM Regulation.
- EN 55000: Asset Management - Also applies to railroad maintenance in order to ensure optimum life cycle management of vehicles.
- EN 50126: RAMS - sets requirements for the safety and reliability of railroad systems, including maintenance strategies.

Safety and quality standards for IH

- Regulation (EU) 2019/779: Regulates the certification of entities in charge of maintenance (ECM). This regulation defines requirements for the maintenance of freight cars and other rail vehicles.
- Regulation (EU) 2020/781: Supplements the TSIs for vehicles and their maintenance.
- Regulation (EU) 2016/798: SMS for railroad undertakings
- ISO 9001: International standard for quality management systems. Often used as the basis for ECM certification.
- EN 45545 series: Describes the fire protection measures that must also be observed in maintenance.
- EN 50153: Electrical safety requirements for rail vehicles

- EN 50155: Electronic devices in rail vehicles
- EN 50657: Software for control and monitoring systems in railroads
- EN ISO 45001: Occupational health and safety management systems (also for IH)

Technical specifications for interoperability

- TSI rolling stock (LOC&PAS, WAG, NOI, PRM, INF): Regulations for maintenance and interoperability
- TSI Safety (SAF): Requirements for maintenance procedures

Standards for mechanical maintenance and repairs

- EN 15085 (parts 1-5): Welding of rail vehicles and components
- EN 14067 (Parts 1-6): Aerodynamics of rail vehicles
- EN 15546 (Parts 1-2): Wheelset maintenance
- EN 16207: Truck maintenance
- EN15654 (Parts 1-4): Wheel-rail contact blades
- EN 13749: Requirements for truck frames and running gear

Standards for electrical and electronic systems

- EN 50343: Electrical interfaces for maintenance
- EN 50388: Interactions between energy companies and vehicles
- EN 50163: Overhead contact line power supply
- EN 50238 (Parts 1-3): Compatibility of railroad signaling systems
- EN 50463 (Parts 1-5): Energy consumption measurement in rail vehicles

Standards for braking and safety systems

- EN 15355: Brake components and maintenance
- EN 14531 (Parts 1-2): Calculation of brake forces
- EN 16207: Inspection and maintenance of braking systems
- EN 15595: Emergency braking systems
- EN 16185 (Parts 1-2): Platform monitoring systems

Standards for wheel and axle systems

- EN 13260: Wheelsets and their components
- EN 13261: Axle shafts for rail vehicles
- EN 13262: Wheels for rail vehicles
- EN 15313: Maintenance and testing of wheels and wheelsets
- EN 13979-1: Test methods for rail wheels

Standards for train control and management systems (TCMS)

- EN 15128: Software for rail technology systems
- EN 50129: Safety requirements for electronic control systems
- EN 50155: Electronic systems in railroads
- EN 50657: Software for control and monitoring systems

Standards for air conditioning systems, doors and interiors

- EN 14750: HVAC systems in rail vehicles
- EN 16362: Maintenance of HVAC systems
- EN 14752: Doors and door control systems
- EN 16585-1: Accessibility and door systems
- EN 16630: Interior lighting

Standards for tankers and liquid systems

- EN 45545-7: Fire protection for tankers and liquids
- EN 15085-5: Welding specifications for tank systems
- EN 16989: Maintenance of water and waste water systems in trains