



ERA Conference on Rail Resilience to Climate Change – Innovation for Rail Resilience, Standards

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16 June 2025

Standards Governance

1

- ▶ Standards are developed by...
 - ▶ Recognised standard development organisations: CEN, CENELEC, IEC, ISO, ETSI, ITU
 - ▶ Key committees for the railway sector: CEN/TC 256, ISO/TC 269, CLC/TC 9X, IEC/TC 9; TC RT (ETSI)
 - ▶ CEN-CENELEC GUIDE 32 „Climate Change Adaption“

2

- ▶ Standardisation Deliverables...
 - ▶ Standard, Technical Specification, Technical Report
 - ▶ Deliverable depends on the maturity of the subject and the needs of the market

3

- ▶ Standardisation is triggered by...
 - ▶ Industry needs, new and mature technologies, insights from science and practice
 - ▶ Standardisation Request from the European Commission (e.g. M/591)
 - ▶ Review of standards at least every 5 years

Some relevant Standards

ISO 14090 Adaptation to CC - Principles, requirements...

- general framework for adaptation to climate change
- focusing on the planning, implementation, monitoring and evaluation of actions

ISO 14091 Adaptation to CC - Guidelines on vulnerability...

- methodology for assessing the vulnerability, impacts and risks associated with climate change
- provides a framework for effective adaptation in various sectors, including rail

ISO 31000 Risk management - Guidelines

- universal approach to risk management
- establishes a general framework that can be adapted to various contexts



EN 50125 Environmental Conditions

- Equipment onboard rolling stock
- Equipment in fixed installations
- Equipment for signalling and communication
- Referenced in TSI LOC & PAS

EN 13129 Air Conditioning

- defines the performance of Air Conditioning as a function of outside temperatures

EN 50155 Electronic Equipment

- defines, among other things, temperature ranges
- that depend on the location of the electronic equipment in the rolling stock and on the outside temperature

Example: Revision EN 50125 “Environmental Conditions”

Why key standard?

- **Definition of environmental and climate conditions** within Europe
- Covers definitions and ranges of environmental parameters, e.g. **rain, snow and hail, temperature, humidity, air movement, ice, and solar radiation**
- Standard **is referenced in the TSI** (link to regulations)
- **Many** product **standards refer to EN 50125**

What are the changes? (Examples)

- **Improve consistency:** Merge 3 parts to 1
- **Each parameter** was reviewed against **climate resilience**
- **Improve applicability** by more concise definitions, e.g.
 - **Hail** impact issues are defined for normal and exceptional cases
 - **Snow load** on the train
 - **Rain fall** (6-15mm/min in 2min, 50mm/h in 1 hour (50 liters))

Manufacturers are committed to climate resilience

Thank you!

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