



TSI WAGONS

1. Former situation

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Former TSI Wagons

- 2006/861/CE

TSI with open points → each member state must check items to its national regulation

- 2009/107/CE (amendment of TSI 2006/861/CE)

This amendment makes it possible (especially §7.6.4) to cross-authorise easily wagons without further checks (TEN-G1)

2. Actual situation

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New TSI Wagons

- § 4.2: basic requirements;
- § 7.1.2: supplementary requirements; if these requirements are fulfilled together with these of § 4.2
➔ authorisation in other member states without further checks;
- Annex C: contains voluntary technical specifications that facilitate the exchange of vehicles between keepers and RU

3. Structure of the New TSI Wagons

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New TSI Wagons

- §4.2: Basic requirements
 1. General;
 2. Structure – mechanical parts;
 3. Gauge – interaction with the tracks;
 4. Brakes;
 5. Environmental conditions;
 6. Fire – electrical hazard

3. Structure of the New TSI Wagons

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New TSI Wagons

- §7.1.2: requirements for authorisation in other member states without further checks (1)
 1. Dynamical behaviour assessed to full range of speed and full range of track geometry ...according to EN 14363 or full assessed running gear ;
 2. Axle bearing conditions must be possible to be monitored according to EN 15437-1;
 3. Non variable gauge wheelsets;
 4. Forged or rolled wheels according to EN 13979-1:2003+A1:2009+A2:2011;



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3. Structure of the New TSI Wagons

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New TSI Wagons

- §7.1.2: requirements for authorisation in other member states without further checks (2)
- 5. The compliance/non-compliance with requirements regarding the axle bearing monitoring (§ 7.3.2.2a - spec. cases) must be set out in the technical documentation;
- 6. Units used on the 1668 mm track gauge network must satisfy the conditions as set out in § 7.3.2.2a - spec. cases;
- 7. Gauges: G1, GA, GB and GC including GIC1 and GIC2 for the lower parts;
- 8. Compatibility to train detection systems as defined in § 4.2;



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3. Structure of the New TSI Wagons

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New TSI Wagons

- §7.1.2: requirements for authorisation in other member states without further checks (3)
- 9. Manual coupling (UIC) or automatic /semi-automatic standardised coupling;
- 10. Brake equipment: braking performances as defined in annex C, thermal capacity (wheels and brake blocks), wheel specifications (EN 13262:2004+A1:2008+A2:2011 and EN13979-1:2003+A1:2009+A2:2011);
- 11. Marking according to EN 15877

3. Structure of the New TSI Wagons

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New TSI Wagons

- Annex C (1):
 - Draw hook + buffers according to EN 15551 and EN 15566 + Bern Rectangle;
 - UIC footsteps and handrails;
 - Ability to be hump shunted;
 - Free space under lifting points;
 - Marking of units;
 - G1 – Gauge;

3. Structure of the New TSI Wagons

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New TSI Wagons

- Annex C (2):
 - Compatibility with train detection systems + distance between 2 adjacent axles shall not exceed 17500 mm;
 - Safe running under longitudinal compressive forces according to EN 15839;
 - UIC Brake ;
 - Temperature ranges – T1;
 - Welding according to EN 15085 - 1 à 5;

3. Structure of the New TSI Wagons

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New TSI Wagons

- Annex C (3):
 - Track gauge = 1435 mm
 - Thermal capacity brakes: blocks according to appendix G (ERA-TD) – Wheels according to C. 15;
 - Tow hooks;
 - Protection of staff towards protruding parts – UIC 535-2
 - Label holders – UIC 575

4. Marking of wagons according to the New TSI

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- §4.2+§7.1.2+annex C → marking “TEN” + “GE” + EVN starting with 2 or 3
- §4.2+§7.1.2+annex C – C3 an/or C6 and or C7 → marking “TEN” + “CW” + EVN starting with 4 or 8
- §4.2+§7.1.2 → marking “TEN” + EVN starting with 4 or 8
- §4.2 → marking + EVN starting with 4 or 8 + marking of MS authorising the wagon

THANKS FOR THE ATTENTION

ANY QUESTIONS

