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## APTU Uniform Rules (Appendix F to COTIF 1999)

### Uniform Technical Prescriptions (UTP) applicable to Rolling Stock, subsystem

### FREIGHT WAGONS - (UTP WAG) - ANNEX II

#### VEHICLE TRACK INTERACTION AND GAUGING

### ASSESSMENT PROCEDURE: LIMITS FOR MODIFICATIONS OF FREIGHT WAGONS NOT REQUIRING NEW APPROVAL

Explanatory note:

The texts of this UTP which appear across two columns are identical to corresponding texts of the European Union regulations. Texts which appear in two columns differ; the left-hand column contains the UTP regulations, the right-hand column shows the text in the corresponding EU regulations. The text in the right-hand column is for information only and is not part of the OTIF regulations.

OTIF UTP

| Corresponding text in EU regulations<sup>1</sup>


EU ref.<sup>2</sup>

Freight wagons, which have changes, as given within the limits of this Annex, in the technical parameters in comparison to the original design of the approved wagon shall not require a new conformity assessment

Distance between bogie centers (wagons with bogies)	$2a^* \geq 9 \text{ m}$	- 15 % to + $\infty$
	$2a^* < 9 \text{ m}$	- 5 % to + $\infty$
Vehicle wheel base (2 axle wagons)	$2a^* \geq 8 \text{ m}$	- 15 % to + $\infty$
	$2a^* < 8 \text{ m}$	- 5 % to + $\infty$
Center of gravity height	Empty vehicle	- 100 % to + 20 %
	Loaded vehicle	- 100 % to + 50 %
Torsional stiffness $Ct^*$ ( $10^{10} \text{ kN/mm}^2/\text{rad}$ )	$Ct^* \leq 3$	- 66 % to + 200 %
	$Ct^* > 3$	- 50 % to + $\infty$
Vehicle tare	$\geq 16 \text{ t}$ (wagons with bogies)	- 15 % to + $\infty$
	$\geq 12 \text{ t}$ (2 axle wagons)	
Modification of max. wheel set load		+ 1,5 t
Moment of inertia of vehicle body (around z-axis — for 2 axle wagons only)		- 100 % to + 10 %
Vertical suspension primary or secondary	Stiffness	0 to + 25 %
	Transitional loads	- 5 % to 0
Rotational torque of bogie		- 20 % to + 20 %

<sup>1</sup> TSI Freight Wagons – The Annex to the Commission Decision 2006/861/EC published in the EU Official Journal L344 on 08.12.2006 as amended by Commission Decision 2009/107/EC published in EU Official Journal L45 on 14.02.2009.

<sup>2</sup> If no EU reference is indicated, it means that the chapter/section number is the same as in the OTIF text.

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Moment of inertia of whole bogie (around z-axis)		- 100 % to + 10 %
Nominal wheel diameter		- 10 % to + 15 %

The proof of the above mentioned as well as accompanying criteria such as strength, braking performance, kinematic gauge, etc. is the applicant's responsibility. | manufacturer's or contracting entity's