Annex 1

Technical specification

(*minimal requirements*)

**LOW FLOOR TRAMS**

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| The tram must be only low floor (without steps in the entrances and in the main gangways of the passenger compartment. The tram must be designed and intended for safe operation on existing tracks with a nominal track gauge of 1524 millimetres (mm) and must be powered by overhead catenary system with a nominal voltage of 600 VDC (+/-30%), at an external ambient Celsius temperature from - 40 °C to + 40 °C.  |
| **Parameters** |
| ***Tram Dimensions*** |
| Bodywork length, mm | 30 000 - 32 000 |
| Bodywork width, mm | 2 500 (+/- 20) |
| Maximum roof height from rail head (with new rail wheels), mm | 3 400 |
| Maximum height with lowered pantograph from rail head level (with new rail wheels), mm | 3 600 |
| ***Pantograph operating distance*** |
| Minimum pantograph operating distance, mm | 4 000 |
| Maximum pantograph operating distance, mm | 6 000 |
| ***Bogies*** |
| Type of bogie | Pivoting bogie |
| Track gauge | 1524 mm |
| Number of bogies | ≥ 3subject to the permissible axle load |
| Wheel diameter (from minimum to maximum), mm | 610 ÷ 710 |
| ***Passenger capacity*** |
| Number of seats | ≥ 60 |
| Minimum number of wheelchair spaces  | 1 |
| Minimum number of baby carriage spaces | 1 |
| Standing capacity | ≥ 140,calculated as 5 persons per each square meter of free floor area intended for standing passengers |
| Load modes and weight characteristics | 1. maximum static axle load may not exceed 110 kN (in load mode EL 8);
2. the maximum specific load of the tram on one linear meter of track may not exceed 20 kN (in load mode EL 8);
3. the difference between the wheel load of each axle may not exceed 5% of the axle load (in load mode EL E, making measurements).
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| Track | Track gauge 1524 mm.The tram, when travelling in a circular movement, must enter track curves without issues with the following minimum radius (in meters):1. on route (on the line) Rmin = 18 m;
2. within depot territory Rmin = 16 m.

The nominal distance between track axes in a straight track section is 3,2 m.The minimum distance between track axes in curves must be within range from 3,82 m to 3,2 m depending on the radius of the curve.The minimum distance between the bodywork of trams: 1. on a straight track section – 600 mm;
2. on curves – 300 mm.
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| Maximum driving speed  | The tram must be able to develop a maximum limited speed of 70 km/h when travelling on a track with an upwards gradient of ≤ 2,4 %. |