

**TECHNICAL REQUIREMENTS FOR 180  
CARGO WAGONS**

| No. | Required functionality description             |   | Specify YES/NO | Document with the number of the page proving the functionality |
|-----|--|---|----------------|--|
| 1.  | Type of wagon                                  | T-type cargo wagon for grain transportation                         |                |  |
| 2.  | Number of axles                                | 4-axle bogie wagon  |                |  |
| 3.  | Axle and monobloc wheel country of origin      | Europe  |                |  |
| 4.  | Type approval/Permit for placing on the market | ERA type approval and the bidder's permit for placing on the market |                |  |
| 5.  | Kinematic profile - TSI                        | G1 – TEN GE   |                |  |
| 6.  | Gauge  | 1435 mm   |                |  |
| 7.  | Nominal speed (loaded/empty)                   | 100/120 km/h  |                |  |
| 8.  | Minimal track curve radius                     | 35 m  |                |  |
| 9.  | Type of bogie                                  | Y25 variants<br>Axle distance = 1800 mm                             |                |  |
| 10. | Axle with wheels                               | 25t (with bearings and housing)                                     |                |  |
| 11. | Braking system                                 | KE-GP-A / KE-GP-A(K)  |                |  |
| 12. | Type of brake pad                              | K Cosid C810  |                |  |
| 13. | Hand brake                                     | Installed in all wagons   |                |  |
| 14. | Buffers  | Type: Category A<br>Stroke: 105 mm<br>Elastomer spring set 40 kJ    |                |  |
| 15. | Screw coupler                                  | 1350 kN   |                |  |
| 16. | Hook   | 1500 kN   |                |  |
| 17. | Draw gear                                      | 1500 kN<br>Elastomeric pads: Durel, Miner or EuroPad                |                |  |
| 18. | Automatic coupler preparation                  | UIC 530-1, 4a   |                |  |
| 19. | Container volume                               | 95m3-100m3  |                |  |

**\* Bidder is required to fill out this form**