

Data Questionnaire for Ballast Bogie Hopper Wagon

1. General

Please provide the following information:

- 1.1 Each suggested vehicle an official valid register information from relevant entities (ERA, OTIF, ECVVR etc.)
- 1.2 Official documents for current situation of each suggested wagon (revision validation, operation period, level of revision, maintenance protocol, photos')
- 1.3 "File of the Wagon" (dossier de la wagon) yes/no
- 1.4 Technical specification for refurbished works yes/no
- 1.5 Provide the name/address and certificate of the workshop, were the refurbished work will be carried out yes/no
- 1.6 Wagons year of manufacture _____
- 1.7 Wagons have a National vehicle number registration _____
- 1.8 The owner should declare that all the supplied Wagons have not been involved in any heavy accidents or serious derailments _____yes/no

2. Standards used in the design of the wagon _____

4. Track data to which the wagon is designed:

- 4.1 Track gauge _____mm
- 4.2 Minimum curved radius (on line) _____m
- 4.3 Minimum curved radius (service branches) _____m
- 4.4 Minimum vertical radius _____m
- 4.5 Compliance with ISR loading gauge? _____

5. Operating Requirements

- 5.1 Operating speeds
 - 5.1.1 Speed loaded _____km/h
 - 5.1.2 Speed unloaded _____km/h
- 5.2 Main dimensions

- 5.2.1 Length over buffer _____mm
- 5.2.2 Length platform _____mm
- 5.2.3 Platform width _____mm
- 5.2.4 Distance between bogie pins _____mm
- 5.2.5 Maximum axle load _____MT
- 5.2.6 Wheel diameter _____mm
- 5.2.7 Nominal height above rail level for:
- Wagon origin condition _____mm
- Wagon after repair and height reduce _____mm
- 5.2.8 Nominal height above rail level of buffer center _____mm
line, empty wagon, new condition
- 5.2.9 Tare weight with screw coupler _____MT

6. Structure

6.1 Underframe

- 6.1.1 Provide prototype test data _____
- 6.1.2 Designed compression forces _____kN
- 6.1.3 Designed traction forces _____kN
- 6.1.4 Designed diagonal forces _____kN
- 6.1.5 Designed running life _____
- 6.1.6 Frame structure - Provide Drawing No. _____
- 6.1.7 Headstock arrangement - Provide Drawing No. _____
- 6.1.8 The support between wearplates of body
and bogie is elastic _____ yes/no
- 6.1.9 The prototype wagon was tested in accordance with
ERRI B12/RP17 document _____ yes/no
- 6.1.10 Empty-load change-over device* yes/no & type _____
* Is it possible to implement automatic weight system
during the repair works _____ yes/no & type _____

6.2 Hopper structure

- 6.2.1 Hopper volume _____m³
- 6.2.2 Hopper bottom inclination _____°
- 6.2.3 Hopper material _____
- 6.2.4 Hopper sheets thickness
- 6.2.4.1 Bottom sheets _____mm
- 6.2.4.2 Wall sheets _____mm

6.2.5 The hopper has discharge chutes, two on each side, which enable discharging of ballast between and outside rails yes/no

6.2.6 Hopper and discharge chutes
- Provide Drawing No. _____

6.2.7 Type of mechanism activates the discharge doors _____

6.3 Unloading Doors

6.3.1 Opening size (LxW) _____mm

6.3.2 Provide detailed drawings of the:

- 6.3.2.1 - Doors structure
- 6.3.2.2 - Doors opening and closing mechanism
- 6.3.2.3 - Safety device to prevent accidental opening
- 6.3.2.4 - Pneumatic systems (option) yes/no

7. Bogie

7.1 Manufacture _____
7.2 Model number _____
7.3 Period in operation _____years

8. Braking system

8.1 Manufacturer _____
8.2 Design speed _____km/h
8.3 Distributor model number _____
8.4 Head stock fitting model number _____
8.5 Change over device (G-P) model number _____
8.6 On-Off valve model number _____
8.7 Cylinder model number _____
8.8 Piping material _____
8.9 Piping diameter _____
8.10 Pipes according to DIN_____
8.11 Coupling hose according to UIC/DIN_
8.12 Pipes fittings types _____
8.13 Slack adjuster model number _____
8.14 Air reservoir capacity _____L
8.15 Provide brake system schematic drawing _____

- 8.16 Provide data sheets for all components _____
- 8.17 Provide tech. spec. for pipes and hoses _____
- 8.18 Hand brake provided yes/no _____
- 8.19 Reduction gear model number _____
- 8.20 Gear multiplication ratio _____
- 8.21 Max. force required to operate the hand wheel _____

9. Buffers and Drawgear

9.1 Buffers

- 9.1.1 Buffers manufacture _____
- 9.1.2 Buffers model number _____
- 9.1.3 Dynamic energy absorption _____ KJ
- 9.1.4 Provide drawing and data sheet _____

9.2 Draw hook and screw coupler

- 9.2.1 Draw hook strength _____ KN
- 9.2.2 Coupler strength _____ KN
- 9.2.3 Draw hook manufacture _____
- 9.2.4 Draw hook model number _____
- 9.2.5 Provide drawings and data sheet _____

10. Accessories

- 10.1 Tow hook manufacture _____
- 10.2 Tow hook model number _____
- 10.3 Provide tow hook data sheet _____
- 10.4 Provide detailed drawing of stairs, ladders and platforms arrangement _____

Data Questionnaire for Rebuilt Bogie Type Y25

1. General
 - 1.1 Period in operation _____
 - 1.2 Provide technical specification for rebuilt work _____ yes/no
 - 1.3 Provide name/address and certificate of the workshop,
were the rebuilt work will be carried out _____ yes/no

2. Standards used in the design of the bogie _____

3. Operating temperature range _____ °C

4. Track data to which the bogie is designed:
 - 4.1 Track gauge _____ mm
 - 4.2 Minimum vertical radius _____ m

5. Operating Requirements
 - 5.1 Operating speeds
 - 5.1.1 Speed loaded _____ km/h
 - 5.1.2 Speed unloaded _____ km/h
 - 5.1.3 Max. allowed axle load _____ ton

 - 5.2 Main dimensions
 - 5.2.1 Wheel base _____ mm
 - 5.2.2 Distance between wear plates _____ mm
 - 5.2.3 Height of wear plates _____ mm
(under max axle load)
 - 5.2.4 Height of pivot _____ mm
 - 5.2.5 Tare weight _____ kg

6. Structure
 - 6.1 General
 - 6.1.1 Designed running life _____ km/years

- 6.2 Frame
- 6.2.1 Method of construction (welded/cast) _____
- 6.2.2 Type of material used _____
- 6.2.3 Design stresses according to _____
- 6.2.4 Provide detailed drawing of the frame _____
- 6.3 Pivot bearing and side bearer
- 6.3.1 Type of material used _____
- 6.3.2 Type of self-lubricated surface material _____
- 6.3.3 Bearer's spring material _____
- 6.3.4 Wearing plate material _____
- 6.4 Suspension
- 6.4.1 Provide detailed drawing of the system
- 6.4.2 Provide compression curves for the inner and outer coil springs and for the spring system
- 6.4.3 Outer spring material _____
- 6.4.4 Inner spring material _____
7. Wheel sets
- 7.1 General
- 7.1.1 Wheels are complied to UIC/ EN
- 7.1.2 Electrical resistance of the assy _____ OHMS
- 7.2 Wheels
- 7.2.1 Wheels dia _____ mm
- 7.2.2 Wheels profile – provide drawing
- 7.2.3 Wheels material _____
- 7.3 Axle Boxes
- 7.3.1 Axle type according to UIC 501-1 / EN13261
- 7.3.2 _____ Journals size _____
- 7.3.3 Material _____

7.4 Axle Boxes

- 7.4.1 Material _____
- 7.4.2 Bearing model number _____
- 7.4.3 Bearing manufacture _____
- 7.4.4 Bearing design life _____ km
- 7.4.5 Bearing grease type _____

8. Braking system

- 8.1 Design speed max loaded _____ km/h
- 8.2 Design speed empty wagon _____ km/h
- 8.3 Leverage multiplication _____
- 8.4 Number of brake shoe material _____
- 8.5 Brake shoe material _____
- 8.6 Articulation points pins material and hardness _____
- 8.7 Articulation points bushing material and hardness _____
- 8.8 Provide detail drawing of the braking system No. _____
- 8.9 Change over weighing valve provided yes/no
- 8.10 Change over weighing valve manufacture _____
- 8.11 Change over weighing valve P/N _____

9. Examination of Bogie Frames and Triangles

9.1 Type of non-destructive inspections:

- 9.1.1 Ultrasonic inspection yes/no
- 9.1.2 Magnetic particle inspection yes/no
- 9.1.3 Liquid penetrant inspection yes/no

- 9.2 Load test under 720 KN yes/no

10. Painting

- 10.1 paint manufacture
- 10.2 Primer paint spec.
- 10.3 Primer coat thickness
- 10.4 Second layer paint spec.
- 10.5 Second layer thickness
- 10.6 Third layer paint spec.
- 10.7 Third layer thickness
- 10.8 Total thickness.