



# **Train Wheelsets**

## **Engineering Standard**

Rail Commissioner

RS1-DOC-000465

**DOCUMENT AMENDMENT RECORD**

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## 1. Introduction

The Department for Infrastructure and Transport (The Department) manages and operates the Adelaide Metropolitan Passenger Railway Network (AMPRN) under the Rail Accreditation assigned to The Rail Commissioner (RCom). Rail Safety National Law (RSNL) (South Australia) Act 2012 requires RCom to have a structured and disciplined approach to the management of the asset lifecycle. This standard is part of the engineering management system used to ensure safety and customer service levels are efficiently and effectively supported.

## 2. Purpose

The purpose of this standard is to provide technical requirements for the design, construction and maintenance of train wheelsets.

## 3. Scope

This standard applies to all train passenger rollingstock operating on the AMPRN

Note:

Railway rolling stock other than passenger rollingstock is required to comply with AS 7517 when operating on the AMPRN.

## 4. References

- AS 7517:2022 Railway Rolling stock - Wheelsets
- AM4-DOC-000372 Development and Approval of Rail Engineering Standards (KNet # 7752944)
- PTS-MS-10-XM-STD-00000084 Railcar Wheel Inspection and Defects Standard (KNet # 6429928)

## 5. Acronyms

| ACRONYM | FULL NAME                                       |
|---------|-------------------------------------------------|
| AMPRN   | Adelaide Metropolitan Passenger Rail Network    |
| DIT     | The Department for Infrastructure and Transport |

## 6. Australian Standard for Wheelsets

DIT adopts all of the recommended requirements specified in AS 7517:2022 as mandatory, unless modified as shown in section 7. If the applicable clause contains the word 'should', it is to be read as the word 'shall'. This is to eliminate any doubt as to the requirements of the clause.

## 7. DIT Addendum to Australian Standard

DIT modifies the following requirements contained within AS 7517:2022

### 7.1. Section 2 Clause 4

DIT adopts AAR S-659 Rule 1.4 and RP-631 Section 2.3 method for achieving a suitable assembly of wheels and axles.

Adoption of other methods as specified in AS 7517:2022 may be acceptable subject to a detailed investigation and approval being obtained from the RCom.

### 7.2. Section 3.1.1 Clause 1 (b)

DIT adopts option (i) Wheel flange back to bearing abutment difference, Figure 1 dimension (C-C1 or C1-C).

**7.3. Section 3.1.2 Clause 3**

DIT adopts the requirement that the difference in wheel back to bearing abutment measurement does not exceed 1mm as a mandatory requirement.

**7.4. Section 3.1.2 Clause 4**

Wheel flange back-to-back dimensions shall be checked in accordance with DIT standard *PTS-MS-10-XM-STD-00000084*.

**7.5. Section 3.4 Clause 3**

For DIT the difference in tread diameter measurements, taken at the tread line, between both wheels on a conventional wheelset shall not exceed 0.25 mm

**7.6. Section 3.4 Clause 4**

The difference in tread diameter measurements between the wheelsets under a vehicle shall be in accordance with the standard *PTS-MS-10-XM-STD-00000084*

**7.7. Section 3.4 Clause 6**

For DIT out of round wheels are considered a low risk. There is also a practical issue in measuring the tread radial run out after wheels on a wheelset are reprofiled. Therefore, the tread radial run out check is not required.

The tread diameter difference shall be checked after the wheels on any wheelset are reprofiled. The variation in tread diameter shall be in accordance with standard *PTS-MS-10-XM-STD-00000084*.

**7.8. Section 5 Clause 3**

DIT adopts the balancing of wheelsets. Adoption of controlled machining and assembly of components may be acceptable subject to a detailed investigation and approval being obtained from the RCom.

**8. Bibliography**

- *AM4-DOC-000372 Development and Approval of Rail Engineering Standards* (KNet # 7752944)