

Guidance

G2110

Wheel profile defect descriptions

Applies to all TfL

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MAYOR OF LONDON

1 Purpose

The purpose of this document is to provide a quick reference guide to identify wheel defects and to support wheel minimum acceptable condition standard (MACS) 14.06.00

2 Scope

This guidance document applies to all rolling stock wheelsets.

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3 Guidance

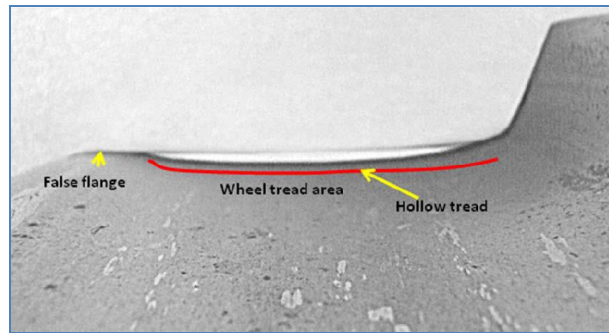
REFERENCE DOCUMENTS	AUDITORS WORK INSTRUCTION	SPECIFIED GAUGES & TOOLS
MACS 14.06.00	S2180 Passenger Rolling Stock Content: AA3.1.1 Specific requirements for wheel profiles.	See relevant Stock MACS

	WHEEL PROFILE DESCRIPTION	ILLUSTRATION
1 Wheel	DIAMETER DIFFERENTIAL ON THE SAME WHEELSET (D-D1) <i>A diameter difference causes uneven loading, wear and vibration.</i>	
2 Wheel	DIAMETER DIFFERENTIAL BETWEEN BOGIES, CARS – (see relevant Stock MACS) <i>A diameter difference causes uneven loading, wear and vibration.</i>	
3 Wheel	WHEEL DIAMETER IN THE RANGE – (see relevant Stock MACS) <i>A diameter difference causes uneven loading, wear and vibration.</i>	

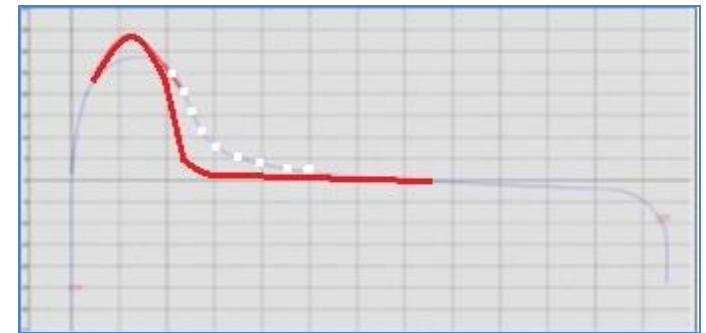
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	WHEEL PROFILE DESCRIPTION	ILLUSTRATION
4 Profile	MAXIMUM FLANGE HEIGHT (Sh) Can be caused by hollow wear tread and can increase in flange height that can hit track based components i.e. fishplates.	WHEEL PROFILE PARAMETERS
5 Profile	MAXIMUM THICK FLANGE WIDTH (Sd13) Can be caused by hollow tread wear and increase in flange thickness. Causes more gauge contact and hunting issue, increase wear to both wheel and rail.	
6 Profile	TREAD WEAR (Hv) / (Loss of conicity) [Also referred to as: Hollow tread / false flange]. Concentrated wear on wheel tread area. Severe tread wear causes changes to flange thickness and height and results in false flange and hunting behavior.	
7 Profile	MINIMUM THIN FLANGE WIDTH (Sd13) Flange appears thinner and may have a sharp edge near the flange tip. Caused by flange wear leading to sharp and thin flange increasing risk of derailment.	



TREAD WEAR
HOLLOW TREAD (Hv)



THIN FLANGE