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JIS E 4309 : 2001
(JARI/JSA)

**Composition brake shoes for railway
rolling stock — Quality requirements**

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Land, Infrastructure and Transport through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Association of Rolling Stock Industries (JARI) / Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS E 4309** : 1991 is replaced with this Standard.

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Composition brake shoes for railway rolling stock — Quality requirements

1 Scope This Japanese Industrial Standard specifies the quality requirements of the composition brake shoes used for the wheel tread of railway rolling stock (hereafter referred to as “brake shoe for wheel tread”) and the composition brake shoe used for the brake disc surface of railway rolling stock (hereafter referred to as “brake shoe for brake disc”)

Furthermore, the brake shoe for wheel tread and the brake shoe for brake disc are generically, hereafter, referred to as “brake shoe”.

2 Normative references The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions (including amendments) of these standards shall be applied.

JIS E 5402-1 *Railway rolling stock—Solid wheel—Quality requirements*

JIS E 5402-2 *Railway rolling stock—Solid steel wheel—Dimensional and balancing requirements*

JIS G 3101 *Rolled steels for general structure*

JIS G 3131 *Hot-rolled mild steel plates, sheets and strip*

JIS G 5501 *Grey iron castings*

JIS K 6911 *Testing methods for thermosetting plastics*

JIS K 7111 *Plastics—Determination of charpy impact strength*

3 Definitions For the purpose of this Standard, the following definitions apply.

- a) **high speed vehicle** a vehicle of which the maximum speed is over 95 km/h
- b) **general vehicle** a vehicle of which the maximum speed is 95 km/h or under
- c) **instantaneous coefficient of friction** instantaneous coefficient of friction at the time of braking from a braking start to a braking end, which is expressed by the dimensionless number obtained by dividing frictional force by pressing force to brake shoe

4 Classification and symbol The classification and symbol of brake shoes shall be as given in table 1 according to the application and coefficient of friction.

Table 1 Classification and symbol

Classification	Symbol	Application	Coefficient of friction	Notes
Class 1	CBS1	Wheel tread	High coefficient of friction	High speed vehicle
Class 2	CBS2			General vehicle
Class 3	CBS3		Low coefficient of friction	General vehicle
Class 4	CBS4	Brake disc	High coefficient of friction	High speed vehicle
Class 5	CBS5			General vehicle