Title | Describe brake lining materials and reline brake shoes
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Level | 3
Credits | 2

Purpose
This unit standard is for people in the automotive repair industry. People credited with this unit standard are able to: demonstrate knowledge of brake lining materials; prepare brake shoes for relining; and rivet brake linings to shoes.

Classification | Motor Industry > Vehicle Braking Systems

Available grade | Achieved

Explanatory notes
1. The following legislation, standards, and their amendments are required to be consulted and followed where applicable:
   - Health and Safety in Employment Act, 1992

2. Reference to suitable tools and equipment means industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task to a professional and competent manner with due regard to safe working practices.

3. Because of the particular nature of this unit standard, it is essential that the practical assessment evidence is obtained from commercial jobs in the workplace under normal workplace conditions.

Outcomes and evidence requirements

Outcome 1
Demonstrate knowledge of brake lining materials.

Evidence requirements
1.1 The characteristics of a friction material are identified.

Range | friction co-efficient value, friction co-efficient resistance to temperature, wear rate, friction surface damage, temperature resistant material, noise factor.
1.2 The categories of brake lining materials are described according to brake and vehicle manufacturer’s specifications.


1.3 The way in which brake lining materials are identified is described according to brake manufacturer’s specifications.

Range edge code – friction identification, compound identification, manufacturer identification.

1.4 The capabilities of lining materials are described according to brake manufacturer’s specifications.

Range fade resistance, recovery, delayed fade, stability, wet friction.

1.5 The precautions for handling brake linings are described according to brake and vehicle manufacturer’s instructions.

Range contamination from grease and oil, precautions against inhaling brake dust.

Outcome 2

Prepare brake shoes for relining.

Evidence requirements

2.1 Safety precautions are taken when preparing the brake shoes for relining.

Range machinery hazards, personal safety when grinding and burning off old linings, ensuring adequate ventilation, approved cleaning methods, removal of dust.

2.2 The old linings are removed from the shoes without damage to the shoes’ platform.

Range punching out rivets; chiselling, grinding, and burning off bonded linings.

2.3 The shoes are cleaned and checked for serviceability.

Range cleaning – washing, filing, linishing, shot blasting; checking – inspecting wear points, removing burrs, determining acceptable service conditions.
Outcome 3
Rivet brake linings to shoes.

Evidence requirements

3.1 Suitable tools and equipment are selected and used to enable the shoes to be relined.

3.2 Safety precautions are taken when carrying out the relining operation.

Range machinery hazards, personal safety when grinding, ensuring adequate ventilation, approved cleaning methods, removal of dust.

3.3 The recommended friction material is selected for the application.

Range vehicle and/or machine manufacturer's specifications, lining material manufacturer's specification.

3.4 The lining is prepared and fitted to the shoe.

Range lining size in relation to drum, holes drilled and countersunk, correct rivets for the job, correct sequence of riveting, shoe to lining contact.

3.5 The radius of the lining matches that of the corresponding drum.

3.6 The work area is vacuumed when the job is completed, to ensure that no brake dust remains.

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**Replacement information**

This unit standard has been replaced by unit standard 24406 and unit standard 24407.

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

**Status information and last date for assessment for superseded versions**

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Please note
Providers must be granted consent to assess against standards (accredited) by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.