

Title	Demonstrate knowledge of lubrication systems for mechanical engineering		
Level	3	Credits	2

Purpose	People credited with this unit standard are able to demonstrate knowledge of lubrication systems; and the use of lubricants in mechanical engineering.
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Classification	Mechanical Engineering > Maintenance and Diagnostics in Mechanical Engineering
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Available grade	Achieved
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Guidance Information

- 1 Definition
PTFE – polytetrafluoroethylene
- 2 Related unit standards
This unit standard is one of a set used for assessing lubrication:
 - Unit 27203, *Demonstrate knowledge of lubrication for mechanical engineering trades* (Level 3); a knowledge standard generally intended for use in general and maintenance and diagnostic engineering trades.
 - Unit 27204, *Inspect lubrication systems* (Level 3); a practical standard generally intended for use in general and maintenance and diagnostic engineering trades.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of lubrication systems in mechanical engineering.

Range examples of lubrication systems are – open, closed, immersed, gravity, pressurised, splash.

Performance criteria

1.1 Key functions of lubricants in mechanical systems are stated.

Range four key functions.

1.2 The principles of lubrication of mechanical components are described.

Range wetting, penetration, interaction between surfaces, performance requirements.

1.3 Types of lubricants are described in terms of composition and use and a typical application for each is stated.

Range examples are – PTFE, graphite, metal alloys, grease, oil-based products: mineral, synthetic, semi-synthetic, dry film material; evidence of five examples is required.

1.4 Lubricants are described in terms of performance characteristics.

Range viscosity, use of additives, operating temperature, operating range, operational life, compatibility.

1.5 Factors in the care and storage of lubricants are described in accordance with manufacturer’s specifications and health and safety requirements.

Range handling, dangerous goods storage requirements, safety data sheets, shelf life, storage conditions, temperature, humidity.

Outcome 2

Demonstrate knowledge of the use of lubricants in mechanical engineering.

Performance criteria

2.1 Information about lubricant use is accessed and interpreted to meet machine operation requirements.

2.2 Common lubrication application faults, symptoms, and remedial actions are described for engineering machinery.

Range incompatible lubricants, lack of lubrication procedures, contaminated lubricants, over lubricating, under lubricating, leaks, blockages.

2.3 Methods for identifying and monitoring lubrication problems are described for engineering machinery.

Replacement information	This unit standard and unit standard 27204 replaced unit standard 2402.
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Planned review date	31 December 2022
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 April 2011	31 December 2022
Review	2	20 July 2017	N/A

Consent and Moderation Requirements (CMR) reference

0013

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.