

Field Engineering and Technology**Review of *Mechanical Engineering* unit standards**

Subfield	Domain	ID
Mechanical Engineering	Engineering – Materials	2383, 4797, 4799, 4800-4802, 20799, 20917, 27446, 27447.

Competenz has completed the review of the unit standards listed above.

Date new versions published

December 2016

Planned review date

December 2021

Summary

As a result of the Targeted Review of Qualifications process, Competenz has reviewed these unit standards to better reflect the requirements of the outcomes listed in new New Zealand qualifications and to better align with industry need.

Meetings with subject matter experts were conducted, identifying the required content and compared this content against existing unit standards. It was identified that four unit standards needed to be replaced to give more structure to the development of knowledge of metals and materials through the New Zealand mechanical engineering and fabrication apprenticeships. Drafts of each unit standard were circulated, and industry and providers were invited to submit feedback. All changes have been endorsed by industry.

Main changes

- Three new unit standards have been developed to replace existing unit standards for assessing knowledge of metals and metal treatments. This series of three unit standards are intended to be assessed in order, as noted in the recommended skills and knowledge. Unit standards 20799, 4797 and 4800 have been replaced by 29550, 29551, and 29552 respectively.
- One new unit standard has been developed to replace an existing unit standard for assessing knowledge of materials used in mechanical engineering, with more focus given to plastics and composites. Unit standard 20917 has been replaced by 29549.
- Remaining unit standards in the *Engineering - Materials* domain have been updated and maintained.
- Explanatory notes were updated and minor changes were made to outcome statements, evidence requirements and range statements.

The last date for assessment of superseded versions of the Category B unit standards was added. Results will not be accepted where the assessment date is after the last date for assessment of the superseded versions of these standards.

Category C unit standards will expire at the end of December 2021

Impact on existing organisations with consent to assess

Current consent for			Consent extended to		
Nature of consent	Classification or ID	Level	Nature of consent	Classification or ID	Level
Standard	4797	3	Standard	29551	3
Standard	20799	3	Standard	29550	2
Standard	20917	2	Standard	29549	2

Detailed list of unit standards – classification, title, level, and credits

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Engineering and Technology > Mechanical Engineering > Engineering - Materials

ID	Title	Level	Credit	Review Category
2383	Carry out heat treatment of metal parts under supervision	2	2	B
4797	Demonstrate knowledge of the composition of common engineering metals	3	5	C
29551	Demonstrate knowledge of the strength, mechanical properties, and treatment of engineering metals	3	3	
4799	Test the physical properties of engineering metals	4	4	B
4800	Demonstrate knowledge of heat treatment for engineering steels	4	5	C
29552	Demonstrate knowledge of heat treatment of engineering metals	4	3	
4801	Demonstrate knowledge of heat treatment for engineering non-ferrous metals	4	4	B
4802	Complete heat treatment of engineering metals in a furnace	4	10	B
20799	Demonstrate knowledge of common engineering metals	3	4	C
29550	Demonstrate basic knowledge of common engineering metals	2	3	

ID	Title	Level	Credit	Review Category
20917	Demonstrate basic knowledge of engineering materials	2	2	C
29549	Demonstrate basic knowledge of the mechanical properties and selection of engineering materials	2	3	
27446	Demonstrate knowledge of engineering tool steels and surface treatment of steels	5	7	B
27447	Conduct surface treatment of steels	5	8	B