

Title	Demonstrate knowledge of force and stress in fabrications		
Level	4	Credits	4

Purpose	<p>This unit standard is for use in training of fabrication trades and covers knowledge of forces and stresses in fabrications.</p> <p>People credited with this unit standard are able to demonstrate knowledge of the effects of forces on fabrications; and of stress in fabrications.</p>
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Classification	Mechanical Engineering > Engineering - Fabrication
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Available grade	Achieved
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Entry information	
Recommended skills and knowledge	Unit 16955, <i>Calculate sizes, mass, volumes, and quantities for fabrication.</i>

Guidance Information

For assessment purposes, values referred to in this unit standard will be expressed in Systeme Internationale (SI) units including multiples and sub-multiples (micro, milli, kilo, etc).

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the effects of forces on fabrications.

Range evidence of three unique projects is required.

Performance criteria

1.1 The type and magnitude of forces acting on members are identified from the applied loads.

Range forces are limited to simple cases of tensile and compressive force.

1.2 The nature and magnitude of forces are determined for simple systems.

Range simple systems are – lever systems, counterweights, clamping arrangements.

Outcome 2

Demonstrate knowledge of stress in fabrications.

Range evidence of 3 unique projects is required.

Performance criteria

2.1 The type and magnitude of stresses present in – structural members are established from the applied forces.

Range stresses are limited to simple cases of tensile and compressive stress.

2.2 Punching forces are calculated for fabricated metals in accordance with manufacturer’s guidelines.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 October 1999	31 December 2020
Revision	2	11 November 2005	31 December 2022
Review	3	17 July 2009	31 December 2022
Review	4	18 February 2016	31 December 2022
Rollover	5	28 September 2017	31 December 2022

Consent and Moderation Requirements (CMR) reference

0013

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