

Title	Demonstrate knowledge of sign installation equipment, fastenings and techniques		
Level	4	Credits	10

Purpose	<p>This unit standard is for people working in the signmaking industry.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of the use of height access equipment; explain the use of bonding tapes, and adhesives; demonstrate knowledge of the use of mechanical fastenings for sign installation; explain freestanding sign installation requirements; and explain the use of substrates and fastenings for sign installation on building interiors; and demonstrate knowledge of exterior sign installation on buildings.</p>
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Classification	Sign Making > Sign Making - Core
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Available grade	Achieved
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Guidance Information

- 1 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:
Health and Safety at Work Act 2015.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

- 2 Definitions

Manufacturer's requirements – instructions provided by manufacturers of substances, equipment, and machinery. These instructions may include details on safe and correct handling, use and storage of substances and/or details on substance properties. Examples are labels on substance containers, product data sheets, and operator's manuals.

Service information – refers to the recommended use and maintenance of machinery, tools and equipment by the manufacturer or supplier.

Workplace procedures – refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace, and are consistent with manufacturer’s requirements. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor’s instructions, and procedures to comply with legislative and local body requirements relevant to the signmaking sector.

3 Assessment information

Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, workplace procedures and legislative requirements.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the use of height access equipment for sign installation.

Range ladders, mobile scaffold towers, fixed scaffolding, scissor lifts, cherry pickers, boom lifts, swinging stages.

Performance criteria

- 1.1 Identify height access equipment and explain its safe use, advantages, and disadvantages for sign installation.
- 1.2 Identify equipment use in terms of job requirements.
- 1.3 Explain equipment maintenance and storage requirements in accordance with manufacturer requirements.

Outcome 2

Explain the use of bonding tapes for sign installation.

Performance criteria

- 2.1 Explain advantages and disadvantages of the use of high bond tapes for sign installation.

Range includes suitability for substrate.
- 2.2 Explain pre-bonding surface preparation requirements in accordance with tape manufacturer specifications.
- 2.3 Explain tape quantity determination and application methods.

Range includes tape orientation.

Outcome 3

Explain the use of adhesives for sign installation.

Performance criteria

- 3.1 Explain advantages and disadvantages of adhesives compared to mechanical fastenings for use in sign installation.
- 3.2 Explain surface preparation requirements in accordance with manufacturer's specifications.
- 3.3 Explain adhesive clamping and cure times in accordance with adhesive manufacturer's specifications.
- 3.4 Explain methods to determine the quantity and application of adhesive.

Outcome 4

Demonstrate knowledge of the use of mechanical fastenings for sign installation.

Performance criteria

- 4.1 Identify and explain fastening types in terms of use suitability, installation tools, and head type.
 - Range types – screws, bolts, coach screws, blind rivets, nylon masonry anchors, wedge and sleeve masonry anchors, concrete screws, GIB anchors;
installation tools – power and hand drivers, rivet gun, socket set, spanners;
head types – countersunk, pan, round, cheese, raised countersunk, button, socket;
head drive types – hex, allen, slot, pozi drive, square, phillips, wing, socket, star/6 lobe.
- 4.2 Identify fastener materials and coating types and explain their use, advantages, and disadvantages in terms of durability, strength, and practicality.
 - Range plain steel, stainless steel, aluminium, nylon, zinc plated, galvanised.
- 4.3 Explain tool use, selection, and techniques for drilling holes in signmaking materials.
 - Range wood, steel, aluminium, acrylic, concrete.
- 4.4 Explain the advantages and use of proprietary fixings for signmaking installation.
 - Range stand offs, letter mounts, sign-fix systems.

4.5 Explain hidden fixing methods for signmaking installation.

Range split battens, hidden proprietary fixings.

Outcome 5

Explain freestanding sign installation requirements.

Performance criteria

5.1 Explain installation considerations to meet freestanding sign strength and durability requirements.

Range wind loading calculation requirements, foundation design options, foundation hole size and depth requirements, concrete options, bolt cage detail, timber treatment requirements.

Outcome 6

Explain the use of substrates and fastenings for interior sign installation on buildings.

Performance criteria

6.1 Explain types of interior substrates and fastening options for interior sign installation.

Range GIB board walls, concrete;
options – hidden fixings, fixing aesthetics.

6.2 Explain techniques for locating studs and wall framing for the purposes of identifying structurally strong fastening points.

Outcome 7

Demonstrate knowledge of exterior sign installation on buildings.

Performance criteria

7.1 Identify sign fixing methods in accordance with building cladding type and building envelope waterproofing requirements.

Range cladding – aluminium composite material (ACM), fibre cement sheet, brick, concrete, plywood, steel, glass, concrete block, rendered polystyrene, timber.

7.2 Explain thermal expansion requirement allowances in accordance with manufacturer's specifications.

Replacement Information	This unit standard and unit standard 33066 replaced unit standard 30164.
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Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	29 September 2022	N/A

Consent and Moderation Requirements (CMR) reference	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.