

Title	Demonstrate knowledge of process stages, machinery and chemicals used in pretanning leather		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of the pretanning stages; describe tannery and wet work machines; and identify and describe tannery chemicals, used in pretanning leather.
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Classification	Fellmongery and Leather Processing > Leather Processing Knowledge
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Available grade	Achieved
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Guidance Information

- 1 Legislation relevant to this unit standard includes but is not limited to:
 - Health and Safety at Work Act 2015;
 - Hazardous Substances and New Organisms Act 1996;
 - Resource Management Act 1991;
 - and any subsequent amendments.

- 2 Definitions

Raw material – hide, pelt, woolskin, deer skin.

Pretanning – stages prior to tanning from raw to pickling.

- 3 References

The Leather Industry: A Chemistry Insight Part I: an Overview of the Industrial Process. Beghetto, Valentina. (2013). Sciences at Ca' Foscari. 2013. 12-22. 10.7361/SciCF-448 available at https://www.researchgate.net/publication/256494870_The_Leather_Industry_A_Chemistry_Insight_Part_I_an_Overview_of_the_Industrial_Process/;

Mann, B. R., & McMillan, M. M. (2008). *The Chemistry of the Leather Industry*. GL Bowron & Co. Ltd., and Aranui High School available at <https://nzic.org.nz/app/uploads/2017/10/5C.pdf>;

Yadav, A., Mishra, S., Kaithwas, G., Raj, A., & Bharagava, R. N. *Organic Pollutants and Pathogenic Bacteria in Tannery Wastewater and their Removal Strategies*. Microbes and Environmental Management (2016). Studium Press (India), New Delhi, 101-127 available at <https://scholar.google.com/scholar?oi=bibs&cluster=8066946304854169372&btnI=1&hl=en>.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the stages used in pretanning leather.

Performance criteria

1.1 Describe production stages in sequence from raw material.

Range stages – soaking, liming, pre tanning, bating, washing;
evidence of four stages is required;
evidence of one raw material is required.

1.2 Describe stages in pretanning in terms of their purpose.

Range evidence of four stages is required.

Outcome 2

Describe tannery and wet work machines used in pretanning leather.

Performance criteria

2.1 Describe tannery machines in terms of basic features and principles of operation.

Range flesher, process vessel.

2.2 Describe wet work machines in terms of their purpose and desired product outcomes in pretanning leather.

Range may include but is not limited to – fleshing, processor, dolly, drum, hydro, stirrer machine, skin squeezer, paint table;
evidence of two wet work machines is required.

Outcome 3

Identify and describe tannery chemicals used in pretanning leather.

Performance criteria

3.1 Identify and describe chemicals used, and their purpose in pretanning leather.

Range may include but is not limited to – sodium hydroxide, calcium hydroxide, sodium sulphide ammonium chloride, ammonium sulphate, carbon dioxide, sulphuric acid, lime, salt;
evidence of five pretanning chemicals used is required.

Replacement information	This unit standard and unit standard 32049 replaced unit standard 8386.
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Planned review date	31 December 2024
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 February 2020	N/A

Consent and Moderation Requirements (CMR) reference	0033
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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 Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.