Australian Government

MSFFDM5012 Research, test and apply materials and technologies for design projects

Release: 1

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Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed and relevant information moved to Assessment Requirements. Assessment Requirements changed. Supersedes and is not equivalent to MSFFDT5008 Research and recommend alternative manufacturing processes and MSFFDT5009 Research and recommend machine technology.

Application

This unit describes the skills and knowledge required to research different complex materials and technologies and their applications. It also covers how to use this information to inform design briefs, select materials and technologies that interact harmoniously together, and establish testing requirements for final selection.

This unit applies to individuals working in a manufacturing or design studio environment who analyse and compare information and test results to develop a combined materials and technologies production solution, either alone or as part of an internal or external team.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Furniture design and manufacturing – general

Elements and Performance Criteria

Elements	**Performance Criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Determine project requirements	1.1 Review and clarify project brief with client 1.2 Confirm and evaluate parameters and constraints from project brief 1.3 Identify and assess aspects of brief that are impacted by materials and technologies selection 1.4 Identify key project stakeholders and establish required communication protocols
2. Research materials and technologies for testing	2.1 Evaluate features of briefed product and research how materials and technologies have been used to achieve these in other projects 2.2 Investigate physical properties, capabilities, limitations or

	constraints of different materials and how these could be utilised in projects 2.3 Research aesthetic properties of different materials in terms of suitability for testing 2.4 Identify production methods, including safety issues and specialised equipment and personnel, required to work with different materials, and assess suitability of those methods against project brief 2.5 Identify and consider new and emerging technologies against project brief and proposed production methods 2.6 Evaluate materials and technologies in context of sustainability, cost and availability for testing and production 2.7 Select materials and technologies to be tested based on outcomes of research
3. Test materials and technologies	3.1 Develop test program and reporting methods for materials and technologies that addresses all facets identified, including interaction of materials and technologies 3.2 Ensure test program addresses safety considerations, both specific to use of selected materials and technologies, and generally for workplace 3.3 Validate test program with relevant personnel or key stakeholders 3.4 Organise physical, financial and human resources based on scope and nature of testing program 3.5 Follow test program to test materials and technologies 3.6 Report on test program results in accordance with agreed reporting methods
4. Analyse and report on test results	4.1 Interpret test program results and their implications from report 4.2 Evaluate advantages and disadvantages of tested materials and technologies based on test results and against project requirements 4.3 Assess production methods and expertise requirements from test results 4.4 Recommend and validate materials, production methods including equipment and technologies, and expertise with key stakeholders 4.5 Complete workplace documentation to finalise project brief, highlighting research and test results, and rationale for materials chosen

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit to performance criteria.

- Numeracy skills to interpret technical information and understand technology operations.
- Reading skills to interpret project brief and research information.
- Writing and oral communication skills to document and communicate research results.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is not equivalent to MSFFDT5008 Research and recommend alternative manufacturing processes and MSFFDT5009 Research and select manufacturing technologies.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73