

SSBIO04 Biomedical Textile Prototyping and Testing Technician

Disclaimer

These Occupational Frameworks and Skill Profiles have been developed as workforce planning, occupational mapping and skills reference resources for the Australian textile, clothing and footwear (TCF) industry. They are intended to describe the typical functions, responsibilities, skills and capabilities associated with occupations across the industry.

These documents are not intended to replace or override industrial instruments or employment arrangements, including awards, enterprise agreements, employment contracts, position descriptions, classification structures, licensing or regulatory requirements, or other statutory obligations. Where differences arise, the relevant industrial, legislative or regulatory requirements take precedence. The Skill Profiles should be used as complementary reference documents to support workforce planning, career development, training and skills recognition.

1. Job role

TCF sub-sector	Biomedical Textiles
Functional area	Research and Product Development
Job role	SSBIO04 Biomedical Textile Prototyping and Testing Technician
Job role description	Supports the development, prototyping, testing and validation of biomedical textile products used in healthcare, rehabilitation, personal protective equipment and medical device applications. In Australia's biomedical textiles industry, the Biomedical Textile Prototyping and Testing Technician assists engineers, scientists and product development specialists by constructing prototypes, conducting laboratory and production testing, recording and analysing technical data, maintaining quality documentation and supporting validation activities.
Performance expectations	• Preparing and constructing biomedical textile prototypes • Conducting laboratory and production testing • Recording and reporting results • Supporting verification and validation • Preparing samples for trials • Maintaining prototype records • Supporting continuous improvement • Operating laboratory equipment safely • Maintaining WHS and quality compliance • Supporting multidisciplinary teams
Specialisation	Biomedical textile prototyping, laboratory testing, product validation support, quality documentation, CAD-supported prototype development
Application in other TCF sectors	• Technical textiles • Apparel manufacturing • Medical device manufacturing • Defence textiles

	• Research organisations • Advanced manufacturing
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2. Key tasks and critical work functions

Key tasks	• Construct prototypes • Operate prototype equipment • Prepare samples • Conduct testing • Record results • Support validation • Maintain equipment • Prepare documentation • Assist engineers • Follow WHS procedures
Critical work functions	• Support product development • Produce accurate prototypes • Maintain documentation • Ensure approved testing • Support compliance • Contribute to continuous improvement

3. Technical skills

Prototype manufacture	Constructing biomedical textile prototypes
Laboratory testing	Conducting physical and functional testing
Sample preparation	Preparing samples for evaluation
Textile materials	Understanding biomedical materials
Testing equipment	Operating and maintaining testing equipment
Technical documentation	Preparing reports and records
CAD support	Using digital specifications
Quality systems	Applying ISO 13485 documentation practices

4. Generic Skills

Teamwork	Working with engineers, scientists and production personnel
Communication	Communicating technical information
Time management	Managing prototype and testing schedules
Attention to detail	Maintaining accurate prototypes and documentation
Adaptability	Responding to changing development priorities
Problem solving	Identifying prototype and testing issues

Safety awareness	Applying safe laboratory practices
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5. Emerging skills

Emerging skills	• Smart textiles • Digital prototyping • Additive manufacturing • Sustainable biomedical materials • Digital quality systems • Automated testing technologies
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6. VET Qualifications and Skill Sets

Entry-level preparation	MSA50108 Diploma of Diploma Manufacturing Technology, Textile Technology or equivalent
Advanced development	Bachelor of Engineering (Biomedical, Manufacturing, Mechanical or Materials), Textile Engineering or Applied Science with postgraduate pathways

7. Job progression

Possible job progression	Biomedical Textile Production Technician → Biomedical Textile Prototyping and Testing Technician → Senior Technician → Biomedical Product Development Engineer → Technical Manager / Innovation Manager
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8. Classification

Australian Qualifications Framework	AQF Level 5-6
Australian Bureau of Statistics (ABS) Skill Levels	Skill Level 2
Open Source Classification of Occupations for Australia (OSCA)	311599 Science Technician (nec)



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