

# SSNST01 Product Development Specialist / Textile Technologist

## 1. Job role

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| TCF sub-sector       | <b>Natural and Synthetic Textile Manufacturing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Functional area      | Technical Product Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Job role             | SSNST01 Product Development Specialist / Textile Technologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Job role description | <p>Leads and supports the research, development, testing and commercialisation of yarns, fabrics and textile systems within the natural and synthetic textile manufacturing sector of the Textile, Clothing and Footwear (TCF) industry.</p> <p>This role is identified as a core occupation within the Technical Product Development function of the Natural and Synthetic Textile Manufacturing Occupational Framework. The Product Development Specialist / Textile Technologist acts as the technical bridge between product design, fibre and yarn engineering, fabric manufacturing, quality assurance, testing, customer requirements and commercial production.</p> <p>The role is responsible for developing innovative textile materials and textile-based products that meet performance, quality, sustainability and market expectations across a broad range of applications including apparel textiles, technical textiles, furnishing fabrics, industrial textiles, performance materials and specialised textile systems.</p> <p>The Product Development Specialist / Textile Technologist oversees the technical progression of products from initial concept and fibre selection through yarn development, fabric construction, dyeing and finishing, testing, validation, production trials and market introduction. The role requires detailed understanding of natural fibres, synthetic fibres, yarn technologies, weaving, knitting, nonwoven systems, textile chemistry, coatings, finishing technologies and performance testing.</p> <p>The position works closely with technical designers, production teams, quality specialists, laboratory personnel, suppliers, machinery technicians, sales teams and customers to ensure developed products are technically feasible, commercially viable and compliant with applicable standards and specifications.</p> <p>The role also contributes to sustainability initiatives, process optimisation, fibre innovation, advanced material development and continuous improvement activities to support competitiveness and operational performance within Australian textile manufacturing.</p> |

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| Performance expectations         | <ul style="list-style-type: none"> <li>• Developing innovative textile products and materials aligned with market and technical requirements</li> <li>• Ensuring products meet performance, durability, compliance and quality standards</li> <li>• Coordinating development activities from concept through to production implementation</li> <li>• Supporting efficient translation of development outcomes into manufacturing processes</li> <li>• Conducting and evaluating textile testing, validation and trial activities</li> <li>• Maintaining accurate technical documentation, specifications and development records</li> <li>• Supporting sustainability, fibre innovation and circular economy initiatives</li> <li>• Minimising development risks, quality failures and production inefficiencies</li> <li>• Supporting collaboration between design, production, testing and commercial teams</li> </ul> |
| Specialisation                   | Textile product development, fibre and yarn technology, fabric engineering, textile chemistry, textile finishing, textile performance testing and technical textile systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Application in other TCF sectors | Technical textiles, furnishing textiles, apparel textiles, composites, industrial textiles, automotive textiles, medical textiles, defence textiles and advanced textile manufacturing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## 2. Key tasks and critical work functions

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| Key tasks               | <ul style="list-style-type: none"> <li>• Researching and developing yarns, fabrics and textile systems</li> <li>• Selecting fibres, yarns, finishes and chemical treatments appropriate to product requirements</li> <li>• Developing fabric constructions for woven, knitted and nonwoven products</li> <li>• Coordinating laboratory trials, pilot production and product validation activities</li> <li>• Conducting textile performance testing and analysing results</li> <li>• Developing technical specifications, BOMs and product documentation</li> <li>• Supporting production trials and process optimisation activities</li> <li>• Liaising with suppliers, customers and internal teams regarding product requirements</li> <li>• Reviewing compliance against customer, regulatory and industry standards</li> <li>• Supporting innovation, sustainability and continuous improvement initiatives</li> </ul> |
| Critical work functions | <ul style="list-style-type: none"> <li>• Ensuring textile products meet technical, functional and commercial requirements</li> <li>• Maintaining alignment between development concepts and manufacturing capability</li> <li>• Supporting consistent product quality and performance outcomes</li> <li>• Preventing defects, process failures and non-compliance issues</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|  | <ul style="list-style-type: none"> <li>Supporting efficient scale-up from development to production</li> <li>Maintaining traceability and technical documentation integrity</li> <li>Supporting innovation and competitiveness within textile manufacturing</li> <li>Contributing to sustainability and advanced materials development</li> </ul> |
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### 3. Technical skills

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| Textile product development | Developing yarns, fabrics and textile systems                               |
| Fibre and yarn technology   | Understanding natural and synthetic fibre properties and yarn structures    |
| Fabric engineering          | Designing woven, knitted and nonwoven constructions                         |
| Textile chemistry           | Applying dyeing, coating, finishing and chemical treatment knowledge        |
| Testing and validation      | Conducting textile performance evaluation and analysis                      |
| Standards compliance        | Applying quality, safety and technical standards                            |
| Process optimisation        | Supporting efficient and scalable manufacturing processes                   |
| Documentation management    | Maintaining technical records, specifications and development documentation |

### 4. Generic Skills

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| Analytical thinking | Evaluating textile performance and technical outcomes             |
| Communication       | Coordinating with technical, operational and commercial teams     |
| Problem solving     | Resolving product and process development issues                  |
| Teamwork            | Working across multidisciplinary product development environments |
| Time management     | Managing development schedules and project timelines              |
| Attention to detail | Maintaining specification accuracy and testing integrity          |
| Adaptability        | Responding to evolving market and technical requirements          |
| Professionalism     | Maintaining compliance, quality and technical standards           |

### 5. Emerging skills

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| Emerging skills | <ul style="list-style-type: none"> <li>Smart textiles and functional material systems</li> <li>Sustainable fibre innovation and circular textile development</li> <li>Advanced composites and performance textile technologies</li> <li>Digital textile simulation and virtual prototyping systems</li> <li>Industry 4.0 integration in textile production and testing</li> <li>Data-driven textile performance analysis and predictive testing</li> </ul> |
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### 6. VET Qualifications and Skill Sets

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| Entry-level preparation | MST40122 Certificate IV in Textile Design and Technology or equivalent                                          |
| Advanced development    | Degree in Textile Engineering, Textile Technology, Textile Design, Materials Engineering or Product Development |

## 7. Job progression

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| Possible job progression | Textile Technologist → Product Development Specialist → Senior Textile Technologist → Technical or Innovation Manager |
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## 8. Classification

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| Australian Qualifications Framework                            | Level 5-7                                                                                           |
| Australian Bureau of Statistics (ABS) Skill Levels             | Skill Level 1-2                                                                                     |
| Open Source Classification of Occupations for Australia (OSCA) | Product Development Specialist / Textile Technologist - Natural and Synthetic Textile Manufacturing |



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