



Skills for Employment Investment Program (SEIP)

COMPETENCY STANDARD FOR TEXTILE TESTING FOR QUALITY ASSURANCE *(TEXTILE SECTOR)*

Finance Division, Ministry of Finance
Government of the People's Republic of Bangladesh

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Copyright

The Competency Standard for Textile Testing for Quality Assurance is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order for individuals who graduated through the established standard via competency-based assessment to be suitably qualified for a relevant job.

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List of Abbreviations

General	
BMET	Bureau of Manpower Employment and Training
B-SEP	Bangladesh Skills for Employment and Productivity
BTEB	Bangladesh Technical Education Board
DTE	Directorate of Technical Education
ILO	International Labor Organization
ISC	Industry Skills Council
NPVC	National Pre-Vocation Certificate
NTVQF	National Technical and Vocational Qualifications Framework
PPP	Public Private Partnership
SCDC	Standards and Curriculum Development Committee
SEIP	Skills for Employment Investment Program
TVET	Technical Vocational Education and Training
UoC	Unit of Competency
Occupation Specific	
AFIS	Advanced Fibre Information System
ASTM	American Society for Testing and Materials
BS	British Standard
EU	European Union
HVI	High volume instrument
ISO	International standard organisation
OHS	Occupational health and safety
PPE	Personal protective equipment
SOP	Standard operating procedure

Introduction

The Skills for Employment Investment Program (SEIP) Project of the Finance Division of the Ministry of Finance has embarked on a project which aims to qualitatively and quantitatively expand the skilling capacity of identified public and private training providers by establishing and operationalising a responsive skill ecosystem and delivery mechanism through a combination of well-defined set of funding triggers and targeted capacity support.

Among the many components of the project, one is to promote a Market Responsive Inclusive Skills Training Delivery programme. Key priority economic growth sectors identified by the government have been targeted by the project to improve current job skills along with up-skilling of the existing workforce to ensure 'required skills to industry standards'. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training programmes. Priority sectors were identified to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

This document is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

Overview

A **competency standard** is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of national and international subject-matter experts, SEIP, BTEB, ISC, and industry experts to identify the competencies required of an occupation in a particular sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. Competency standards acknowledge that people can achieve technical and vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guide

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

Approval Sheet

Identification and validation of units of competency and elements for this occupation were made by experts within this sector. A series of meetings were held to accurately capture industry and employer needs and expectations, and develop the competency framework that would help to enhance the employability of the youth trained. This process started on 22 April 2018 and concluded with a validation workshop with working group on 28 August 2018.

Experts Involved

Industry and subject-matter experts who provided their valuable inputs to develop this competency standard [April - July 2018]:

Name	Organisation	Designation
Engr. Mozaffar Hossain	SIM Group	Managing Director
Mr. Masud Rana	Asia Composite Mills Limited	Managing Director
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Md. Kamruzzaman	Talha Fabrics Limited	General Manager
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Shilpi Akter	British Council - SD03	National Subject Matter Consultant - Textile Sector

Development and Validation Workshop

Working group formation and competency standard development workshop participants [held on 28 August 2018]:

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Name	Organisation	Designation
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David King	British Council - SD03	Team Leader
Shilpi Akter	British Council - SD03	National Subject Matter Consultant - Textile Sector

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide

Course Structure

SL	Unit Code and Title		Level	Nominal Duration (Hours)
Generic Competencies (5 units of competency required)				
1	SEIP-TEX-TTQ-01-G	Use basic mathematical concepts		8
2	SEIP-TEX-TTQ-02-G	Apply occupational health and safety (OHS) practice in the workplace		8
3	SEIP-TEX-TTQ-03-G	Carry out workplace interaction		8
4	SEIP-TEX-TTQ-04-G	Operate in a team environment		8
5	SEIP-TEX-TTQ-05-G	Apply basic IT skills		32
Sub-Total				64
Sector-specific Competencies (4 units of competency required)				
1	SEIP-TEX-TTQ-01-S	Explore the history of Textile Sector		16
2	SEIP-TEX-TTQ-01-S	Apply knowledge of textile testing		16
3	SEIP-TEX-TTQ-02-S	Use hand and measuring tools		8
4	SEIP-TEX-TTQ-03-S	Read and interpret sketches and drawings		16
Sub-Total				56
Occupation-specific Competencies (4 units of competency required)				
1	SEIP-TEX-TTQ-01-O	Perform fibre and yarn testing		48
2	SEIP-TEX-TTQ-02-O	Perform fabric testing		80
3	SEIP-TEX-TTQ-03-O	Perform dyeing and finishing testing		80
4	SEIP-TEX-TTQ-04-O	Perform garments testing		32
Sub-Total				240
Total Nominal Learning Hours				360

Competency Chart

Units of Competency	Elements		
Use basic mathematical concepts SEIP-TEX-TTQ-01-G	Identify calculation requirements in the workplace	Select appropriate mathematical methods/concepts for the calculation	Use tools and instruments to perform calculations
Apply occupational health and safety (OHS) practice in the workplace SEIP-TEX-TTQ-02-G	Identify OHS policies and procedures	Apply personal health and safety practices	Report hazards and risks
Carry out workplace interaction SEIP-TEX-TTQ-03-G	Interpret workplace communication and etiquette	Read and understand workplace documents	Participate in workplace meetings and discussions
Operate in a team environment SEIP-TEX-TTQ-04-G	Identify team goals and work processes	Identify own role and responsibilities within team	Communicate and co-operate with team members
Apply basic IT skills SEIP-TEX-TTQ-05-G	Identify and use most commonly used IT tools	Understand use of computer	Work with word processing application
	Work with spreadsheets	Access email and search the internet	

Sector-specific (Common) Competencies

Explore the history of Textile Sector SEIP-TEX-TTQ-01-S	Identify the background of textile sector	Identify main industries	Identify raw materials
	Identify prime local and export markets		
Apply knowledge of textile testing SEIP-TEX-TTQ-02-S	Identify requirement for testing	Identify types of testing	Identify testing standards and conditions
Use hand and measuring tools SEIP-TEX-TTQ-03-S	Identify and inspect hand and measuring tools	Use hand tools properly and safely	Use measuring tools properly and safely
	Clean and maintain hand and measuring tools		
Read and interpret sketches and drawings SEIP-TEX-TTQ-04-S	Interpret information and specifications	Read and interpret sketches and drawings	

Occupation-specific (Core) Competencies

Perform fibre and yarn testing SEIP-TEX-TTQ-01-O	Prepare for work	Identify testing standards	Identify fibre tests and machines
	Identify yarn tests and machines	Carry out fibre and yarn testing	Clean and maintain the machine
Perform fabric testing SEIP-TEX-TTQ-02-O	Prepare for work	Identify testing standards	Identify fabric tests and machines
	Carry out fabric testing	Clean and maintain the machine	
Perform dyeing and finishing testing SEIP-TEX-TTQ-03-O	Prepare for work	Identify testing standards	Identify dyeing and finishing tests and machines
	Carry out dyeing and finishing testing	Clean and maintain the machine	
Perform garment testing SEIP-TEX-TTQ-04-O	Prepare for work	Identify testing standards	Identify garment tests and machines
	Carry out garment testing	Clean and maintain the machine	

Units and Elements Table

Generic – Compulsory (5 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-TEX-TTQ-01-G	Use basic mathematical concepts	<ol style="list-style-type: none"> 1. Identify calculation requirements in the workplace. 2. Select appropriate mathematical methods/concepts for the calculation. 3. Use tools and instruments to perform calculations. 	8
SEIP-TEX-TTQ-02-G	Apply occupational health and safety (OHS) practice in the workplace	<ol style="list-style-type: none"> 1. Identify OHS policies and procedures. 2. Apply personal health and safety practices. 3. Report hazards and risks. 4. Respond to emergencies. 	8
SEIP-TEX-TTQ-03-G	Carry out workplace interaction	<ol style="list-style-type: none"> 1. Interpret workplace communication and etiquette. 2. Read and understand workplace documents. 3. Participate in workplace meetings and discussions. 4. Practice professional ethics at work. 	8
SEIP-TEX-TTQ-04-G	Operate in a team environment	<ol style="list-style-type: none"> 1. Identify team goals and work processes. 2. Identify own role and responsibilities within team. 3. Communicate and co-operate with team members. 4. Practice problem solving within the team. 	8
SEIP-TEX-TTQ-05-G	Apply basic IT skills	<ol style="list-style-type: none"> 1. Identify and use most commonly used IT tools. 2. Understand use of computer. 3. Work with word processing application. 4. Work with spreadsheets. 5. Access email and search the internet. 	32
Total Hours			64

Sector-specific – Compulsory (4 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-TEX-TTQ-01-S	Explore the history of Textile Sector	<ol style="list-style-type: none"> 1. Identify the background of textile sector. 2. Identify main industries. 3. Identify raw materials. 4. Identify prime local and export markets. 	16
SEIP-TEX-TTQ-02-S	Apply knowledge of textile testing	<ol style="list-style-type: none"> 1. Identify requirement for testing. 2. Identify types of testing. 3. Identify testing standards and conditions. 	16
SEIP-TEX-TTQ-03-S	Use hand tools and measuring tools	<ol style="list-style-type: none"> 1. Identify and inspect hand and measuring tools. 2. Use hand tools properly and safely. 3. Use measuring tools properly and safely. 4. Clean and maintain hand and measuring tools. 	8
SEIP-TEX-TTQ-04-S	Read and interpret sketches and drawings	<ol style="list-style-type: none"> 1. Interpret information and specifications. 2. Read and interpret sketches and drawings. 	16
Total Hours			56

Occupation-specific – Compulsory (4 units of competency required)

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-TEX-TTQ-01-O	Perform fibre and yarn testing	<ol style="list-style-type: none"> 1. Prepare for work. 2. Identify testing standards. 3. Identify fibre tests and machines. 4. Identify yarn tests and machines. 5. Carry out fibre and yarn testing. 6. Clean and maintain the machine. 	48
SEIP-TEX-TTQ-02-O	Perform fabric testing	<ol style="list-style-type: none"> 1. Prepare for work. 2. Identify testing standards. 3. Identify fabric tests and machines. 4. Carry out fabric testing. 5. Clean and maintain the machine. 	80
SEIP-TEX-TTQ-03-O	Perform dyeing and printing testing	<ol style="list-style-type: none"> 1. Prepare for work 2. Identify testing standards. 3. Identify dyeing and finishing tests and machines. 4. Carry out dyeing and finishing testing. 5. Clean and maintain the machine. 	80
SEIP-TEX-TTQ-04-O	Perform garment testing	<ol style="list-style-type: none"> 1. Prepare for work 2. Identify testing standards. 3. Identify garment tests and machines. 4. Carry out garment testing. 5. Clean and maintain the machine. 	32
Total Hours			240

Generic Competencies

Unit Title:	Use basic mathematical concepts
Unit Code:	SEIP-TEX-TTQ-01-G
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to perform computations using basic mathematical concepts in the workplace. It specifically includes identifying general calculation requirements, selecting appropriate mathematical method/concept, and forming and solving mathematical problems in the workplace using appropriate tools and instruments.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify calculation requirements in the workplace	1.1. <u>Calculation requirements</u> are identified from <u>workplace information</u> . 1.2. Mathematical problems are constructed from workplace information.
2. Select appropriate mathematical methods/concepts for the calculation	2.1. <u>Appropriate method</u> is selected to carry out calculation requirements. 2.2. Constructed mathematical problems are solved with appropriate method.
3. Use tools and instruments to perform calculations	3.1. Tools and instruments required for computation are identified. 3.2. Calculation is performed using appropriate tools and instruments accurately.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Calculation requirements	1.1. Unit 1.2. Area 1.3. Height/ length/ breadth/ thickness 1.4. Diameter 1.5. Weight 1.6. Capacity 1.7. Time 1.8. Temperature 1.9. Material/data usage 1.10. Speed 1.11. Costing

Range of Variables	
Variable	Range (may include but not limited to)
2. Workplace information	2.1. Floor environment 2.2. Design sheet 2.3. Specification sheet 2.4. Working chart/drawing 2.5. Standard operating procedure (SOP) 2.6. Job order
3. Appropriate method	3.1. Addition 3.2. Subtraction 3.3. Division 3.4. Multiplication 3.5. Conversion 3.6. Percentage and ratio calculation 3.7. Simple equation
4. Tools and instruments	4.1. Calculator 4.2. Cell phone 4.3. Computer 4.4. Ruler

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified calculation requirements from workplace information 1.2. Selected appropriate method to carry out the calculation requirements 1.3. Completed calculations using appropriate tools and instruments
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Numerical concepts 2.2. Basic mathematical methods such as addition, subtraction, multiplication, division and percentage 2.3. Mathematical language, symbols and terminology 2.4. Measuring units
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Constructing simple problems from workplace information 3.2. Solving problems using appropriate method, tools and instruments 3.3. Using appropriate tools and instruments

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes

- 4.1. Prompt in carrying out activities
- 4.2. Tidy and punctual
- 4.3. Respectful of peers, subordinates and seniors in the workplace
- 4.4. Safely use tools and equipment
- 4.5. Sincere and honest concerning duties

5. Resource implications

- The following resources must be provided:
- 5.1. Workplace (simulated or actual)
 - 5.2. Calculator
 - 5.3. Cell phone
 - 5.4. Computer/laptop/notebook
 - 5.5. Measuring tape
 - 5.6. Ruler
 - 5.7. Projector
 - 5.8. Stationary
 - 5.9. Learning manual

6. Methods of assessment

- Methods of assessment may include but is not limited to:
- 6.1. Written test
 - 6.2. Oral test
 - 6.3. Observation
 - 6.4. Demonstration
 - 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Unit Title:	Apply occupational health and safety (OHS) practice in the workplace
Unit Code:	SEIP-TEX-TTQ-02-G
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to apply occupational health and safety (OHS) practices in the workplace. It specifically includes identifying OHS policies and procedures, applying personal health and safety practices, reporting hazards and risks, and responding to emergencies.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify OHS policies and procedures	<p>1.1. <u>OHS policies</u> and safe operating procedures are interpreted.</p> <p>1.2. Safety signs and symbols are identified and followed.</p> <p>1.3. Response, evacuation procedures and other contingency measures are interpreted correctly.</p>
2. Apply personal health and safety practices	<p>2.1. OHS policies and procedures are applied in the workplace including <u>personal protective equipment (PPE)</u>.</p> <p>2.2. Common health issues are recognised.</p> <p>2.3. Common safety issues are identified.</p>
3. Report hazards and risks	<p>3.1. Hazards and risks are identified.</p> <p>3.2. Hazards and risks assessment and controls are interpreted.</p>
4. Respond to emergencies	<p>4.1. Respond to alarms and warning devices.</p> <p>4.2. <u>Emergency response plans and procedures</u> are responded to.</p> <p>4.3. <u>First aid procedures</u> during emergency situations are identified.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. OHS policies	<p>1.1. Organisational OHS polices</p> <p>1.2. International OHS requirements</p> <p>1.3. Fire safety rules and regulations</p>
2. Emergency response plans and procedures	<p>2.1. Firefighting procedures</p> <p>2.2. Earthquake response procedures</p> <p>2.3. Emergency response plans and procedures</p> <p>2.4. Medical and first aid</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
3. First aid procedure	3.1. Washing of open wound 3.2. Washing chemically infected area 3.3. Applying bandage 3.4. Taking appropriate medicine
4. Personal protective equipment	4.1. Safety glasses 4.2. Ear plugs 4.3. Gloves 4.4. Apron 4.5. Helmet 4.6. Mask 4.7. Safety shoes

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified OHS policies and procedures 1.2. Applied personal health and safety practices (including PPE) 1.3. Reported hazards and risks 1.4. Responded to emergencies
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Workplace OHS policies and procedures 2.2. Work safety procedures 2.3. Emergency response procedures: <ol style="list-style-type: none"> 2.3.1. Firefighting 2.3.2. Earthquake response 2.3.3. Accident response 2.4. Types of hazards (biological, chemical and physical) and their effects 2.5. OHS awareness 2.6. Personal protective equipment (PPE)
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Identifying OHS policies and procedures 3.2. Applying personal health and safety practices 3.3. Reporting hazards and risks 3.4. Responding to emergencies

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes	4.1. Committed to occupational health and safety practices 4.2. Communicates well with peers, subordinates and seniors in workplace 4.3. Prompt in carrying out activities 4.4. Tidy and punctual 4.5. Sincere and honest concerning duties 4.6. Responsible during emergencies
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Personal protective equipment (PPE) 5.3. Firefighting equipment 5.4. Emergency response manual 5.5. First aid kits 5.6. Projector 5.7. Stationary 5.8. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Demonstration 6.3. Oral test 6.4. Observation 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Unit Title:	Carry out workplace interaction
Unit Code:	SEIP-TEX-TTQ-03-G
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to carry out workplace interaction. It specifically includes workplace communication, etiquette, understanding workplace documents, workplace meetings and discussions, and professional ethics at work.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Interpret workplace communication and etiquette	<p>1.1. Workplace codes of conduct are interpreted as per organisational guidelines.</p> <p>1.2. Appropriate lines of communication are maintained with supervisors and colleagues.</p> <p>1.3. Workplace interactions are conducted in a <u>courteous manner</u> to gather and convey information.</p> <p>1.4. <u>Workplace procedures and matters</u> are comprehended.</p>
2. Read and understand workplace documents	<p>2.1. Workplace documents are interpreted correctly.</p> <p>2.2. Visual information/symbols/signage are understood correctly and followed.</p> <p>2.3. Specific and relevant information are accessed from <u>appropriate sources</u>.</p> <p>2.4. Appropriate medium is used to transfer information and ideas.</p>
3. Participate in workplace meetings and discussions	<p>3.1. Team meetings are attended on time.</p> <p>3.2. Meeting procedures and etiquette are followed.</p> <p>3.3. Active participation is ensured, opinions are expressed and heard.</p> <p>3.4. Inputs are provided and interpreted in line with the meeting purpose.</p>
4. Practice professional ethics at work	<p>4.1. Responsibilities as a team member are performed.</p> <p>4.2. Tasks are performed in accordance with workplace procedures.</p> <p>4.3. Confidentiality is maintained.</p> <p>4.4. Inappropriate and conflicting situations are avoided.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Courteous manner	1.1. Effective questioning 1.2. Active listening 1.3. Speaking skills 1.4. Writing skill 1.5. Email etiquette
2. Workplace procedures and matters	2.1. Notes 2.2. Arranging a meeting 2.3. Agenda 2.4. Simple reports such as progress and incident reports 2.5. Job sheets 2.6. Operational manuals 2.7. Brochures and promotional material 2.8. Visual and graphic materials 2.9. Standards 2.10. OHS information 2.11. Signs
3. Appropriate sources	3.1. Human Resources (HR) Department 3.2. Managers 3.3. Supervisors 3.4. Management Information System (MIS)

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Interpreted workplace communication and etiquette 1.2. Interpreted workplace instructions and symbols 1.3. Performed active participation in workplace meetings
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Workplace communication and etiquette 2.2. Workplace documents, signs and symbols 2.3. Meeting procedure and etiquette 2.4. Professional ethics
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Demonstrating workplace communication and etiquette 3.2. Interpreting workplace instructions and symbols 3.3. Demonstrating active participation in workplace meeting 3.4. Applying professional ethics at work

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes

- 4.1. Prompt in carrying out activities
- 4.2. Tidy and punctual
- 4.3. Respectful of peers, subordinates and seniors in the workplace
- 4.4. Concerned about the work environment
- 4.5. Sincere and honest concerning duties

5. Resource implications

- The following resources must be provided:
- 5.1. Workplace (simulated or actual)
 - 5.2. Workplace procedures
 - 5.3. Standard operating procedure
 - 5.4. Workplace documents, signs and symbols
 - 5.5. Codes of conduct
 - 5.6. Projector
 - 5.7. Stationary
 - 5.8. Learning manual

6. Methods of assessment

- Methods of assessment may include but is not limited to:
- 6.1. Written test
 - 6.2. Demonstration
 - 6.3. Oral test
 - 6.4. Observation
 - 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NTVQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Unit Title:	Operate in a team environment
Unit Code:	SEIP-TEX-TTQ-04-G
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to operate in a team environment. It specifically includes team goals and work processes, roles and responsibilities, team communication and problem solving within the team.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify team goals and work processes	1.1. Roles and objectives of the team are identified and interpreted. 1.2. Roles and responsibilities of team members are identified and interpreted.
2. Identify own role and responsibilities within team	2.1. Personal role and responsibilities are identified within the team environment. 2.2. Reporting relationships are interpreted within team and external to team.
3. Communicate and co-operate with team members	3.1. Other teammates' tasks are identified and support provided when requested. 3.2. The team is encouraged through <u>sharing information</u> or expertise, working together to solve problems, and putting team success first. 3.3. Views and opinions of other team members are interpreted and respected.
4. Practice problem solving within the team	4.1. Problems faced at the individual and team level are identified and showed insight into the root-causes of the problems. 4.2. A range of solutions and courses of action are identified together with benefits, costs, and risks associated with each. 4.3. The good ideas of others to help develop solutions are recognised and advice sought from those who have solved similar problems. 4.4. It is looked beyond the obvious and not stopped at the first answers.

Range of Variables	
Variable	Range (may include but not limited to)
1. Sharing information	1.1. Agenda 1.2. Minutes 1.3. Progress and incident reports 1.4. Operational manuals 1.5. Visual and graphic materials 1.6. Emails and SMS 1.7. Phone directory 1.8. Policy, procedure and standards 1.9. OHS information

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Underpinning knowledge	1.1. Team goals and work processes 1.2. Roles and responsibilities 1.3. Finding problems and solving them
2. Underpinning skills	2.1. Identifying own role and responsibilities within team 2.2. Communicating and co-operating with team members 2.3. Demonstrating problem solving within the team
3. Underpinning attitudes	3.1. Active on teamwork 3.2. Prompt in carrying out activities 3.3. Tidy and punctual 3.4. Respectful of peers, subordinates and seniors in the workplace 3.5. Sincere and honest concerning duties
4. Underpinning knowledge	4.1. Team goals and work processes 4.2. Roles and responsibilities 4.3. Finding problems and solving them
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Projector 5.3. Stationary 5.4. Learning manual

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Demonstration
- 6.3. Oral test
- 6.4. Observation
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Unit Title:	Apply basic IT skills
Unit Code:	SEIP-TEX-TTQ-05-G
Nominal Hours:	32 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to apply basic IT skills in the workplace. It specifically includes identifying common IT tools, using computer, word processing and spreadsheet applications, email and searching on internet.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify and use most commonly used IT tools	1.1. History of information technology (IT) is identified and summarised. 1.2. Commonly used <u>IT tools</u> are identified and described.
2. Understand use of computer	2.1. Basic parts of a computer are identified. 2.2. Turning on and off technique of a computer is performed. 2.3. Working environment, functions and features of operating system is interpreted. 2.4. Simple trouble-shooting techniques are applied.
3. Work with word processing application	3.1. Word processing application appropriate to perform activity is operated. 3.2. Basic typing technique to document is applied. 3.3. Word processing techniques to document are employed. 3.4. Personal CV writing using suitable word processing techniques is practiced. 3.5. Saving and retrieving technique of a document is used.
4. Work with spreadsheets	4.1. Spreadsheet working environment, functions and features are identified and interpreted. 4.2. Data entry on spreadsheet appropriate to perform activity is performed. 4.3. <u>Data manipulation techniques</u> to spreadsheet document are applied. 4.4. Spreadsheet document is created and saved.
5. Access email and search the internet	5.1. Use of email account in online environment is explained. 5.2. Writing and sending of workplace emails is completed. 5.3. Different <u>browsers</u> to work online are identified and selected. 5.4. Browse different web portals and apply proper search techniques.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. IT tools	1.1. Cell phone 1.2. Tablets 1.3. Computers, laptops, notebooks 1.4. Internet 1.5. Software 1.6. Satellite
2. Data manipulation techniques	2.1. Sum 2.2. Average 2.3. Count 2.4. Max 2.5. Min 2.6. If 2.7. Sort 2.8. Fill 2.9. Header 2.10. Footer Print
3. Browsers	3.1. Internet Explorer 3.2. Firefox 3.3. Google Chrome 3.4. Opera 3.5. Safari 3.6. Omni Web 3.7. Microsoft Edge

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified commonly used IT tools 1.2. Performed simple trouble-shooting with computer 1.3. Performed typing on word processing software, saved and retrieved documents 1.4. Performed data entry with spreadsheet 1.5. Used email account for different online purposes
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. IT and IT tools 2.2. Computer trouble-shooting 2.3. Techniques to access internet

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

3. Underpinning skills	3.1. Demonstrating simple trouble-shooting with computer 3.2. Demonstrating typing on word processing software 3.3. Demonstrating data entry with spreadsheet 3.4. Opening email account and using it for different purposes
4. Underpinning attitudes	4.1. Active on teamwork 4.2. Prompt in carrying out activities 4.3. Tidy and punctual 4.4. Respectful of peers, subordinates and seniors in the workplace 4.5. Concerned about proper use of computer and peripherals 4.6. Sincere and honest concerning duties
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. IT tools 5.3. Computer/laptop/notebook 5.4. Software 5.5. Internet 5.6. Projector 5.7. Stationary 5.8. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Demonstration 6.3. Oral test 6.4. Observation 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Sector-specific Competencies

Unit Title:	Explore the history of Textile Sector
Unit Code:	SEIP-TEX-TTQ-01-S
Nominal Hours:	16 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to explore the history of Textile Sector in Bangladesh. It specifically includes examining the background of textile sector, identifying the main industries, identifying raw materials, and identifying prime local and export markets.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Examine the background of textile sector	1.1. The background of textile sector is identified and described. 1.2. <u>Steps of manufacturing process</u> are identified 1.3. Backward and forward linkages are identified.
2. Identify main industries	2.1. <u>Main industries</u> of the textile sector are identified. 2.2. Importance of textile sector and main industries is analysed.
3. Identify raw materials	3.1. Types of <u>yarn</u> are identified and described. 3.2. Types of <u>fabric</u> are identified and described.
4. Identify prime local and export markets	4.1. Prime <u>local markets</u> and <u>export markets</u> are identified. 4.2. Local and export markets are listed.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Steps of manufacturing process	1.1. Spinning 1.2. Weaving 1.3. Dyeing 1.4. Printing 1.5. Garments
2. Main industries	2.1. Spinning 2.2. Weaving 2.3. Knitting 2.4. Dyeing 2.5. Printing

Range of Variables	
Variable	Range (may include but not limited to)
3. Yarn	3.1. Cotton 3.2. Polyester 3.3. Blended (cotton, polyester, tencel, flax, viscose, modal) 3.4. Wool 3.5. Silk
4. Fabric	4.1. Greige 4.2. Grey/solid dyed 4.3. Stripe 4.4. Check 4.5. Cross over 4.6. Double cloth 4.7. Terry
5. Local markets	5.1. Wholesale 5.2. Retail
6. Export markets	6.1. Europe 6.2. United States 6.3. Australia

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified the background of textile sector 1.2. Identified basic steps of manufacturing process 1.3. Identified raw materials used in textile sector 1.4. Identified prime local and export markets
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. History of textile sector 2.2. Steps of manufacturing process 2.3. Raw materials 2.4. Prime local and export markets
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Describing the history of textile sector 3.2. Identifying steps of manufacturing processing 3.3. Identifying raw materials 3.4. Identifying prime local and export markets

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

<p>4. Underpinning attitudes</p>	<p>4.1. Eager to learn 4.2. Patient and attentive 4.3. Tidy and punctual 4.4. Active on team work 4.5. Sincere and honest concerning duties</p>
<p>5. Resource implications</p>	<p>The following resources must be provided:</p> <p>5.1. Workplace (simulated or actual) 5.2. Map/globe 5.3. Materials (yarn/fabric samples) 5.4. Production process flowchart 5.5. Projector 5.6. Stationary 5.7. Learning manual</p>
<p>6. Methods of assessment</p>	<p>Methods of assessment may include but is not limited to:</p> <p>6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio</p>
<p>7. Context of assessment</p>	<p>7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.</p>

Accreditation Requirements

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Unit Title:	Apply knowledge of textile testing
Unit Code:	SEIP-TEX-TTQ-02-S
Nominal Hours:	16 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to apply knowledge of textile testing. It specifically includes identifying the requirement for textile testing, identifying types of testing, and identifying testing standards and conditions.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify requirement for testing	1.1. Requirement for textile testing is identified and explained. 1.2. Scope of textile testing is described. 1.3. Importance of textile testing to assure quality is explained.
2. Identify types of testing	2.1. Types of <u>textile testing</u> are identified and described. 2.2. Purpose of various types of textile testing are explained.
3. Identify testing standards and conditions	3.1. Types of <u>testing standards</u> are identified and described. 3.2. Standard testing conditions are identified.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Textile testing	1.1. Fibre 1.2. Yarn 1.3. Fabric 1.4. Dyeing and finishing 1.5. Garment
2. Testing standards	2.1. International Standard Organisation (ISO) 2.2. American Society for Testing and Material (ASTM) 2.3. British Standard (BS)

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Explained requirement for textile testing 1.2. Identified and described types of textile testing 1.3. Identified and described types of testing standards 1.4. Identified standard testing conditions

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

2. Underpinning knowledge	<ul style="list-style-type: none">2.1. Testing requirement2.2. Types of textile testing2.3. Types of testing standards2.4. Standard testing conditions
3. Underpinning skills	<ul style="list-style-type: none">3.1. Explaining requirement for textile testing3.2. Identifying types of textile testing3.3. Identifying types of testing standards3.4. Identifying standard testing conditions
4. Underpinning attitudes	<ul style="list-style-type: none">4.1. Eager to learn4.2. Patience and attentive4.3. Tidy and punctual4.4. Active on team work4.5. Sincere and honest concerning duties
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none">5.1. Workplace (simulated or actual)5.2. Computer/laptop/notebook5.3. Internet5.4. Textile testing standards (sample)5.5. Projector5.6. Stationary5.7. Learning manual
6. Methods of assessment	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none">6.1. Written test6.2. Oral test6.3. Observation6.4. Demonstration6.5. Portfolio
7. Context of assessment	<ul style="list-style-type: none">7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.7.2. Assessment must be done by a suitably qualified/certified assessor.

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Unit Title:	Use hand and measuring tools
Unit Code:	SEIP-TEX-TTQ-03-S
Nominal Hours:	8 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to use hand and measuring tools in the workplace. It specifically includes identifying and inspecting hand and measuring tools for usability, using and operating tools properly and safely, and cleaning and maintaining hand and measuring tools after use.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Identify and inspect hand and measuring tools	<p>1.1. Appropriate hand and measuring tools are identified.</p> <p>1.2. Application of hand and measuring tools is recognised.</p> <p>1.3. Usability of hand and measuring tools is checked and verified.</p>
2. Use hand tools properly and safely	<p>2.1. Appropriate <u>hand tools</u> are selected.</p> <p>2.2. Safety precautions are ensured before using hand tools.</p> <p>2.3. Unsafe or faulty hand tools are identified and marked for repair.</p> <p>2.4. Use hand tools properly and safely to perform work activity.</p>
3. Use measuring tools properly and safely	<p>3.1. Appropriate <u>measuring tools</u> are selected.</p> <p>3.2. Measuring tools are checked and calibrated before use.</p> <p>3.3. Unsafe or faulty measuring tools are identified and marked for repair.</p> <p>3.4. Use measuring tools properly and safely to perform work activity.</p>
4. Clean and maintain hand and measuring tools	<p>4.1. Dust and foreign matter is removed from hand and measuring tools in accordance to workplace standards.</p> <p>4.2. Condition of hand and measuring tools is checked after use and reported.</p> <p>4.3. Appropriate lubricant is applied after use and prior to storage.</p> <p>4.4. Measuring tools are checked and calibrated after use.</p> <p>4.5. Defective hand and measuring tools are inspected and repaired or replaced.</p> <p>4.6. Hand and measuring tools are stored and secured in accordance with workplace requirements.</p>

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Hand tools	1.1. Scissor 1.2. Needle 1.3. Counting glass/pick counter 1.4. Screwdrivers 1.5. Wrench box 1.6. Hand tap 1.7. Wire cutters 1.8. Easy opener 1.9. Top roller adjust gauge 1.10. Allen key
2. Measuring tools	2.1. Measuring tape 2.2. Steel tape 2.3. Measuring ruler 2.4. Templates 2.5. Weight machine

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Identified and selected appropriate hand tools for work to be performed 1.2. Identified and used measuring tools appropriate to work activity 1.3. Followed safety precautions when using hand and measuring tools 1.4. Used hand and measuring tools properly pursuant to manufacturer's operating specification 1.5. Performed cleaning and maintenance of hand and measuring tools after use and prior to storing
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Information on types of hand and measuring tools, their functions and use 2.2. Procedures for safely using hand and measuring tools

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

3. Underpinning skills	3.1. Identifying hand and measuring tools 3.2. Following safety precautions when using hand and measuring tools 3.3. Using hand and measuring tools correctly and safely in accordance with manufacturer's operating specification 3.4. Cleaning and maintaining hand and measuring tools after use 3.5. Applying appropriate lubricant on hand and measuring tools after use and prior to storing
4. Underpinning attitudes	4.1. Prompt in carrying out activities 4.2. Tidy and punctual 4.3. Eager to learn 4.4. Active on teamwork 4.5. Sincere and honest concerning duties 4.6. Concerned for proper use of tools 4.7. Concerned about the work environment 4.8. Committed to occupational health and safety practices 4.9. Respectful of peers, subordinates and seniors in the workplace
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Personal protective equipment (PPE) 5.3. Hand tools 5.4. Measuring tools 5.5. Projector 5.6. Stationary 5.7. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

Accreditation Requirements

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Unit Title:	Read and interpret sketches and drawings
Unit Code:	SEIP-TEX-TTQ-04-S
Nominal Hours:	16 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to read and interpret sketches and drawings. It specifically includes interpreting information and specifications, and reading and interpreting sketches and drawings.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Interpret information and specifications	1.1. Appropriate <u>manuals</u> for work activity are identified and collected. 1.2. Information and <u>specifications</u> in the manuals is interpreted and applied.
2. Read and interpret sketches and drawings	2.1. Relevant <u>sketches and drawings</u> are identified for job requirement. 2.2. Key <u>terms and abbreviations</u> are identified and interpreted. 2.3. <u>Signs and symbols</u> are identified and interpreted. 2.4. Schedules, dimensions, sketches, drawings and specifications are correctly read and interpreted.

Range of Variables	
Variable	Range (<i>may include but not limited to</i>)
1. Manuals	1.1. Buyers specification 1.2. Compliance 1.3. Maintenance procedure 1.4. Periodic maintenance 1.5. Quality assurance 1.6. Standard operating procedure (SOP)
2. Sketches and drawings	2.1. Technical 2.2. Measurement 2.3. Design
3. Specifications	3.1. Product 3.2. Performance 3.3. Method
4. Terms and abbreviations	4.1. Refers to all terms and abbreviations associated with the Textile Sector
5. Signs and symbols	5.1. Includes all signs and symbols associated with the Textile Sector

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Identified information and specifications 1.2. Read and interpreted sketches and drawings
2. Underpinning knowledge	2.1. Manuals 2.2. Units of measurement 2.3. Units of conversion 2.4. Sketch, drawings and specifications
3. Underpinning skills	3.1. Reading and identifying information and specifications (from manual) 3.2. Reading and interpreting sketches and drawings
4. Underpinning attitudes	4.1. Prompt in carrying out activities 4.2. Tidy and punctual 4.3. Eager to learn 4.4. Active on teamwork 4.5. Sincere and honest concerning duties 4.6. Eager to learn 4.7. Concerned about proper use of computer and peripherals
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Computer/laptop/notebook 5.3. Software 5.4. Sketches and drawings 5.5. Manuals and specifications 5.6. Projector 5.7. Stationary 5.8. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Evidence Guide

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Accreditation Requirements

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Occupation-specific Competencies

Unit Title:	Perform fibre and yarn testing
Unit Code:	SEIP-TEX-TTQ-01-O
Nominal Hours:	48 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to perform fibre and yarn testing. It specifically includes preparing for work, identifying testing standards, identifying fibre test and machines, identifying yarn test and machine, carrying out fibre and yarn testing, and cleaning and maintaining the machine.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted</p> <p>1.2. Appropriate personal protective equipment (PPE) is selected and used.</p> <p>1.3. Appropriate tools and equipment are identified and selected.</p>
2. Identify testing standards	<p>2.1. Standard testing procedure is identified and described.</p> <p>2.2. Standard testing conditions (temperature and relative humidity) are interpreted.</p>
3. Identify fibre test and machines	<p>3.1. Types of <u>fibre test</u> are identified and described.</p> <p>3.2. Types of <u>fibre testing machine</u> are identified.</p> <p>3.3. Parts of testing machine are identified.</p> <p>3.4. Function of parts of testing machine are explained.</p>
4. Identify yarn test and machines	<p>4.1. Types of <u>yarn test</u> are identified and described.</p> <p>4.2. Types of <u>yarn testing machine</u> are identified.</p> <p>4.3. Parts of testing machine are identified.</p> <p>4.4. Function of parts of testing machine are explained.</p>
5. Carry out fibre and yarn testing	<p>5.1. Fibre and yarn test and testing machine is selected.</p> <p>5.2. Types of <u>chemical</u> are identified and selected.</p> <p>5.3. Fibres and yarns are selected for testing.</p> <p>5.4. Sampling is done as per standard testing procedure.</p> <p>5.5. Testing is carried out according to standard testing procedure.</p> <p>5.6. Test results are recorded and reported.</p>
6. Clean and maintain the machine	<p>6.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>6.2. Waste material from machine is identified.</p> <p>6.3. Waste material is separated and disposed of as per standard operating procedure.</p>

Range of Variables	
Variable	Range (may include but not limited to)
1. Fibre test	1.1. Fibre identification (ISO 1833, AATCC 20, AATCC 20A): 1.1.1. Physical 1.1.2. Chemical 1.2. Fibre length (ISO 6989:1981) 1.3. Fibre fineness (ISO 2403:2014) 1.4. Fibre maturity (ISO 4912) 1.5. Fibre strength (ASTM D 3822) 1.6. Moisture regain and moisture content (ISO 15512)
2. Fibre testing machine	2.1. Electronic microscope 2.2. Advanced fibre information system (AFIS) 2.3. High volume instrument (HVI) 2.4. Moisture analyser
3. Yarn test	3.1. Yarn count (ISO 2060) 3.2. Twist per inch (TPI) and twist direction 3.3. Yarn strength (ASTM D2256-10(2015)) 3.4. Yarn hairiness 3.5. Co-efficient of variance (CV%) and Imperfection Index (IPI)
4. Yarn testing machine	4.1. Beesley balance 4.2. Ordinary/modern twist 4.3. Shirley yarn hairiness 4.4. Yarn strength 4.5. Wrap reel
5. Chemical	5.1. Sulphuric acid 5.2. Phenol 5.3. Sodium hydro-oxide (NaOH)

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Prepare for work 1.2. Identified testing standards and conditions 1.3. Identified fibre and yarn testing machines 1.4. Carried out sampling and testing according to standard testing procedure 1.5. Recorded and reported test results

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

2. Underpinning knowledge	<ul style="list-style-type: none">2.1. Standard testing procedure2.2. Standard testing conditions2.3. Fibre and yarn tests2.4. Testing machines2.5. Parts and functions of testing machines2.6. Chemicals2.7. Sampling2.8. Maintenance process
3. Underpinning skills	<ul style="list-style-type: none">3.1. Preparing for work3.2. Identifying testing standards, conditions and procedure3.3. Collecting samples3.4. Carrying out testing3.5. Recoding and reporting testing results3.6. Cleaning and maintaining testing machine
4. Underpinning attitudes	<ul style="list-style-type: none">4.1. Prompt in carrying out activities4.2. Tidy and punctual4.3. Eager to learn4.4. Sincere and honest concerning duties4.5. Active on teamwork4.6. Concerned for proper use of tools4.7. Concerned about the work environment4.8. Committed to occupational health and safety practices4.9. Communicate with peers and seniors in the workplace4.10. Respectful of peers, subordinates and seniors in the workplace
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none">5.1. Workplace (simulated or actual)5.2. Personal protective equipment (PPE)5.3. Tools and equipment5.4. Testing machines5.5. Material/samples5.6. Chemicals5.7. Stationary5.8. Learning manual

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

Accreditation Requirements

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Unit Title:	Perform fabric testing
Unit Code:	SEIP-TEX-TTQ-02-O
Nominal Hours:	80 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to perform fabric testing. It specifically includes preparing for work, identifying testing standard, identifying testing machine, carrying out fabric testing, and cleaning and maintaining the machine.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted</p> <p>1.2. Appropriate personal protective equipment (PPE) is selected and collected.</p> <p>1.3. Appropriate tools and equipment are identified and selected.</p>
2. Identify testing standard	<p>2.1. Standard testing procedure is identified and described.</p> <p>2.2. Standard testing conditions (temperature and RH) are interpreted.</p>
3. Identify testing machines	<p>3.1. Types of <u>fabric test</u> are identified</p> <p>3.2. Types of <u>fabric testing machine</u> are identified.</p> <p>3.3. Parts of testing machine are identified.</p> <p>3.4. Function of parts of testing machine are explained.</p>
4. Carry out fabric testing	<p>4.1. Fabric test and testing machine is selected.</p> <p>4.2. Types of <u>chemical</u> are identified and selected.</p> <p>4.3. Fabrics are selected for testing.</p> <p>4.4. Sampling is done as per standard testing procedure.</p> <p>4.5. Testing is carried out according to standard testing procedure.</p> <p>4.6. Test results are recorded and reported.</p>
5. Clean and maintain the machine	<p>5.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>5.2. Waste material from machine is identified.</p> <p>5.3. Waste material is separated and disposed of as per standard operating procedure.</p>

Range of Variables	
Variable	Range (may include but not limited to)
1. Fabric test	1.1. Thread density (ISO 7211-2) 1.2. Fabric weight (Gram per square meter -GSM) (ISO 3801) 1.3. Tensile strength (ISO13934-1, ISO 13934-2) 1.4. Tear strength (ISO 13937-1, ASTM D 5587) 1.5. Bursting strength (ISO 13938-2, ASTM D 3786-06) 1.6. Pilling (ISO 12957-1,2) 1.7. Abrasion resistance(ISO 12947-1, ISO 12947-2)
2. Fabric testing machine	2.1. Universal strength tester 2.2. Tear strength tester 2.3. Bursting strength tester 2.4. Counting glass/pick counter 2.5. GSM cutter and electronic balance 2.6. Martindale Abrasion and Pilling testing machine
3. Chemical	3.1. Sulphuric acid 3.2. Phenol 3.3. Sodium hydro-oxide (NaOH)

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Prepare for work 1.2. Identified testing standards and conditions 1.3. Identified fabric testing machines 1.4. Carried out sampling and testing according to standard testing procedure 1.5. Recorded and reported test results
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Standard testing procedure 2.2. Standard testing conditions 2.3. Fabric tests 2.4. Testing machines 2.5. Parts and functions of testing machines 2.6. Chemicals 2.7. Sampling 2.8. Maintenance process

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

3. Underpinning skills	3.1. Preparing for work 3.2. Identifying testing standards, conditions and procedure 3.3. Collecting samples 3.4. Carrying out testing 3.5. Recoding and reporting testing results 3.6. Cleaning and maintaining testing machine
4. Underpinning attitudes	4.1. Prompt in carrying out activities 4.2. Tidy and punctual 4.3. Eager to learn 4.4. Sincere and honest concerning duties 4.5. Active on teamwork 4.6. Concerned for proper use of tools 4.7. Concerned about the work environment 4.8. Committed to occupational health and safety practices 4.9. Communicate with peers and seniors in the workplace 4.10. Respectful of peers, subordinates and seniors in the workplace
5. Resource implications	The following resources must be provided: 5.1. Workplace (simulated or actual) 5.2. Personal protective equipment (PPE) 5.3. Tools and equipment 5.4. Testing machines 5.5. Material/samples 5.6. Chemicals 5.7. Stationary 5.8. Learning manual
6. Methods of assessment	Methods of assessment may include but is not limited to: 6.1. Written test 6.2. Oral test 6.3. Observation 6.4. Demonstration 6.5. Portfolio
7. Context of assessment	7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 7.2. Assessment must be done by a suitably qualified/certified assessor.

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

Accreditation Requirements

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Unit Title:	Perform dyeing and finishing testing
Unit Code:	SEIP-TEX-TTQ-03-O
Nominal Hours:	80 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to perform dyeing and finishing testing. It specifically includes preparing for work, identifying testing standards for dyeing and finishing testing, identifying testing machine, carrying out dyeing and finishing testing and, cleaning and maintaining the machine.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted</p> <p>1.2. Appropriate personal protective equipment (PPE) is selected and collected.</p> <p>1.3. Appropriate tools and equipment are identified and selected.</p>
2. Identify testing standard	<p>2.1. Standard testing procedure is identified and described.</p> <p>2.2. Standard testing conditions (temperature and RH) are interpreted.</p>
3. Identify testing machines	<p>3.1. Types of <u>dyeing and finishing test</u> are identified</p> <p>3.2. Types of <u>dyeing and finishing testing machine</u> are identified.</p> <p>3.3. Parts of testing machine are identified.</p> <p>3.4. Function of parts of testing machine are explained.</p>
4. Carry out dyeing and finishing testing	<p>4.1. Dyeing and finishing test and testing machine is selected.</p> <p>4.2. Types of <u>chemical</u> are identified and selected.</p> <p>4.3. Fabrics are selected for testing.</p> <p>4.4. Sampling is done as per standard testing procedure.</p> <p>4.5. Testing is carried out according to standard testing procedure.</p> <p>4.1. Test results are recorded and reported.</p>
5. Clean and maintain the machine	<p>5.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>5.2. Waste material from machine is identified.</p> <p>5.1. Waste material is separated and disposed of as per standard operating procedure.</p>

Range of Variables	
Variable	Range <i>(may include but not limited to)</i>
1. Fabric dyeing and finishing tests	1.1. Colour fastness: 1.1.1. Fastness to wash (ISO105 C06, ISO 105 C08) 1.1.2. Fastness to light (ISO 105 B02) 1.1.3. Fastness to rubbing (ISO 105 X12) 1.1.4. Perspiration (ISO 105 E04) 1.1.5. Saliva (64 LFGB B82.10-1, GB/T 18886)
2. Fabric dyeing and finishing testing machine	2.1. Crock Meter 2.2. Launder-o-Meter 2.3. Light fastness 2.4. Perspiration Meter 2.5. Oven 2.6. Dryer
3. Chemicals	3.1. For wash fastness test: 3.1.1. ECE phosphate base detergent 3.1.2. Sodium hypochlorite, sodium per borate 3.2. For perspiration test: 3.2.1. Sodium chloride 3.2.2. L-Histidine Monohydrochloride 3.2.3. Disodium hydrogen orthophosphate dehydrate 3.2.4. Sodium dihydrogen orthophosphate dehydrate 3.2.5. Sodium hydro-oxide for maintaining pH 3.3. For saliva test: 3.3.1. Sodium bicarbonate 3.3.2. Sodium chloride 3.3.3. Potassium carbonate

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. Prepare for work 1.2. Identified testing standards and conditions 1.3. Identified dyeing and finishing testing machines 1.4. Carried out sampling and testing according to standard testing procedure 1.5. Recorded and reported test results

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

2. Underpinning knowledge	<ul style="list-style-type: none">2.1. Standard testing procedure2.2. Standard testing conditions2.3. Dyeing and finishing tests2.4. Testing machines2.5. Parts and functions of testing machines2.6. Chemicals2.7. Sampling2.8. Maintenance process
3. Underpinning skills	<ul style="list-style-type: none">3.1. Preparing for work3.2. Identifying testing standards, conditions and procedure3.3. Collecting samples3.4. Carrying out testing3.5. Recoding and reporting testing results3.6. Cleaning and maintaining testing machine
4. Underpinning attitudes	<ul style="list-style-type: none">4.1. Prompt in carrying out activities4.2. Tidy and punctual4.3. Eager to learn4.4. Sincere and honest concerning duties4.5. Active on teamwork4.6. Concerned for proper use of tools4.7. Concerned about the work environment4.8. Committed to occupational health and safety practices4.9. Communicate with peers and seniors in the workplace4.10. Respectful of peers, subordinates and seniors in the workplace
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none">5.1. Workplace (simulated or actual)5.2. Personal protective equipment (PPE)5.3. Tools and equipment5.4. Testing machines5.5. Material/samples5.6. Chemicals5.7. Stationary5.8. Learning manual

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 7.2. Assessment must be done by a suitably qualified/certified assessor.

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Unit Title:	Perform garment testing
Unit Code:	SEIP-TEX-TTQ-04-O
Nominal Hours:	32 hours
Unit Descriptor:	This unit covers the skills, knowledge and attitudes required to perform garment testing. It specifically includes preparing for work, identifying testing standards, identifying testing machine, carrying out garment testing, and cleaning and maintaining the machine.
Elements of Competency	Performance Criteria (<u>bold and underlined</u> terms are elaborated in the Range of Variables)
1. Prepare for work	<p>1.1. Job specifications and instructions are read and interpreted</p> <p>1.2. Appropriate personal protective equipment (PPE) is selected and collected.</p> <p>1.3. Appropriate tools and equipment are identified and selected.</p>
2. Identify testing standard	<p>2.1. Standard testing procedure is identified and described.</p> <p>2.2. Standard testing conditions (temperature and RH) are interpreted.</p>
3. Identify testing machines	<p>3.1. Types of <u>garment test</u> are identified</p> <p>3.2. Types of <u>garment testing machine</u> are identified.</p> <p>3.3. Parts of testing machine are identified.</p> <p>3.4. Function of parts of testing machine are explained.</p>
4. Carry out garment testing	<p>4.1. Garment test and testing machine is selected.</p> <p>4.2. Garments are selected for testing.</p> <p>4.3. Sampling is done as per standard testing procedure.</p> <p>4.4. Testing is carried out according to standard testing procedure.</p> <p>4.5. Test results are recorded and reported.</p>
5. Clean and maintain the machine	<p>5.1. Machine and machine parts are cleaned as per manufacturer instructions and pursuant to schedule.</p> <p>5.2. Waste material from machine is identified.</p> <p>5.3. Waste material is separated and disposed of as per standard operating procedure.</p>

Range of Variables	
Variable	Range (may include but not limited to)
1. Garment test	1.1. Seam strength (ISO 13935) 1.2. Seam slippage (ISO 13936) 1.3. Button pull test (ASTMD 4846)
2. Garment testing machine	2.1. Universal strength tester

Evidence Guide	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment must evidence that the candidate: <ol style="list-style-type: none"> 1.1. Prepare for work 1.2. Identified testing standards and conditions 1.3. Identified garment testing machines 1.4. Carried out sampling and testing according to standard testing procedure 1.5. Recorded and reported test results
2. Underpinning knowledge	<ol style="list-style-type: none"> 2.1. Standard testing procedure 2.2. Standard testing conditions 2.3. Garment tests 2.4. Testing machines 2.5. Parts and functions of testing machines 2.6. Chemicals 2.7. Sampling 2.8. Maintenance process
3. Underpinning skills	<ol style="list-style-type: none"> 3.1. Preparing for work 3.2. Identifying testing standards, conditions and procedure 3.3. Collecting samples 3.4. Carrying out testing 3.5. Recoding and reporting testing results 3.6. Cleaning and maintaining testing machine

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

4. Underpinning attitudes

- 4.1. Prompt in carrying out activities
- 4.2. Tidy and punctual
- 4.3. Eager to learn
- 4.4. Sincere and honest concerning duties
- 4.5. Active on teamwork
- 4.6. Concerned for proper use of tools
- 4.7. Concerned about the work environment
- 4.8. Committed to occupational health and safety practices
- 4.9. Communicate with peers and seniors in the workplace
- 4.10. Respectful of peers, subordinates and seniors in the workplace

5. Resource implications

The following resources must be provided:

- 5.1. Workplace (simulated or actual)
- 5.2. Personal protective equipment (PPE)
- 5.3. Tools and equipment
- 5.4. Testing machines
- 5.5. Material/samples
- 5.6. Chemicals
- 5.7. Stationary
- 5.8. Learning manual

6. Methods of assessment

Methods of assessment may include but is not limited to:

- 6.1. Written test
- 6.2. Oral test
- 6.3. Observation
- 6.4. Demonstration
- 6.5. Portfolio

7. Context of assessment

- 7.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
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