PROCESS TEXTILE FABRIC

UNIT CODE: ENG/OS/TEX/CR/06/6/A

Unit description

This unit describes the competencies required by a textile technician to process textile fabric. It involves competencies required to perform textile pre-treatment, textile dyeing, textile printing and textile finishing, control production and quality parameters.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These are assessable statements which specify the required level of performance for each of the elements	**PERFORMANCE CRITERIA** These are assessable statements which specify the required level of performance for each of the elements ***(Bold and italicized terms are elaborated in the Range)***
1. Perform textile pre-treatment	1.1 ***Textile materials*** are obtained from the grey store according to production needs 1.2 Grey materials are loaded for inspection on the machine according to process requirements 1.3 The fabric inspection machine is operated according to operation procedures 1.4 ***Faults are identified*** and recorded according to standard requirements. 1.5 Fabric is sorted and graded according to grading system required 1.6 Grey fabric is singed according to job specifications 1.7 The singed fabric is desized according to the machine manuals 1.8 Scouring and washing is done on the desized fabric 1.9 Proper Bleaching of the fabric is done according to quality requirements 1.10 The bleached material is mercerized according to standard operating procedures. 1.11 The pre-treatment operations are documented according to organizational procedures.
2. Perform textile dyeing	2.1 Materials for dyeing are identified according to job requirement 2.2 Method of colouration/dyeing is determined according to process requirement

	2.3 Dyeing machines are inspected according to organizational procedures. 2.4 Dyeing parameters are set according to job specifications 2.5 Materials are loaded into dyeing machines according to machine capacity and operational manuals. 2.6 Dyeing machine is operated and monitored according to machine operation manuals and recipe 2.7 Dyeing machine is stopped and dyed materials offloaded according to SOPs 2.8 Dyed materials are dried and stored for next process according to specified conditions. 2.9 Dyeing process is documented according laid down procedures
3. Perform textile printing	3.1 Prepared materials are obtained according to organizational procedures 3.2 Printing technique is identified according to job specification 3.3 Printing machine parameters are set according to the operational manuals 3.4 Lead cloth is set in position according to SOPS 3.5 Prepared material is stitched to the lead cloth according to SOPS 3.6 Printing machines is operated and quality monitored according operational manuals 3.7 Printed cloth is doffed of according to operational manual 3.8 Printed doffed cloth is cured and washed according to standard operating procedures. 3.9 Printed fabric is stored according to specified conditions 3.10 Printed cloths are documented according to organizational procedure
4. Perform textile finishing	4.1 Textile materials for production are obtained according to production requirement 4.2 ***Textile finishing machineries, equipment and tools are obtained*** according to production requirement. 4.3 ***Methods of finishing*** are determined according to nature of polymer available

	4.4 Production parameters are set and determined according to production requirement. 4.5 Production machines are operated according to manufacturer's manual. 4.6 Finished products are delivered according to production requirement of the organization. 4.7 Textile finishing process is documented according to organization procedures.
5. Control production and quality parameters	5.1 Finishing production inputs are determined according to process machines. 5.2 Inspect finishing input according to the required quality parameters 5.3 Finishing parameters are determined according to product requirement. 5.4 Loading finishing schedule and production plan developed according to master production plan finishing target 5.5 Periodic quality parameters are monitored according to quality requirement. 5.6 Labour requirement are determined according to work load
6. Operate finishing machinery	6.1 ***Finishing machines*** are identified according to process layout 6.2 ***Machine safety and operation procedures*** are observed according to manufacturer manuals and OSHA 6.3 Machine status is checked and required routine maintenance is undertaken according to manufacturer's manual. 6.4 ***Machine Operating parameters*** are set according to production requirements 6.5 Machine control buttons are identified and operated according to standard operating procedures. 6.6 Finishing machines are operated according to manufacturer's manuals. 6.7 Selected finishing machines are installed according to process layout.

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Textile materials may include but is not limited to:	• Fibres • Dyes pigments • Resins and binders • Fabric • Yarns • Dyes • Chemicals
2. Textile finishing machineries, equipment and tools are obtained may include but is not limited to:	• Stenter • Calendaring machine • Sanforizing machine • Raising machine • Printing machine
3. Methods of finishing may include but is not limited to:	• Raising • Calendaring • Sanforizing • Water proofing

REQUIRED SKILLS

The individual needs to demonstrate skills in:

- Interpreting and following information on written job instructions, manufacturer specifications, standard operating procedures, charts, lists, reports and other applicable reference documents
- Checking and clarifying information
- Reporting – oral/written
- Planning and sequencing tasks
- Identifying non-compliances
- Completing proformas, standard workplace forms, workplace reports and other applicable documents
- Checking for conformance to specifications
- Measuring to specified tolerances
- Performing numerical operations, geometry and engineering calculations/formulae within unit's scope
- Communication skills
- Problem solving
- Creativity and innovation
- Data collection and analysis

- Use of tools and equipment
- Technical presentation

REQUIRED KNOWLEDGE

The individual needs to demonstrate knowledge of:

- Textile finishing operations
- Properties of textile raw materials
- Characterization of textile raw materials.
- Quality control parameters
- Textile testing machine
- Identification of textile material defects and faults
- Applicable codes and standards
- Methods to locate, fix/fasten machine.
- Use and application of personal protective equipment
- Hazards and control measures associated with installing machine including housekeeping
- Safety practices and procedures
- Fasteners
- Use of tools and equipment
- Material handling
- Problem solving
- Data analysis and interpretation
- Documentation
- Testing and inspection
- Basic principle of operation of the equipment being installed
- Procedure for safe disposal of waste materials
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EVIDENCE GUIDE

This provides advice on assessment and must be in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency.	Assessment requires evidence that the learner 1.1 Performed textile pre-treatment 1.2 Performed textile dyeing 1.3 Performed textile printing 1.4 Performed textile finishing 1.5 Controlled production and quality parameters

2. Resource Implications.	The following resources should be provided: 2.1 Dyes stuffs 2.2 Pigments 2.3 Printing screens 2.4 Textile finishing machine 2.5 Textile finishing chemicals
3. Methods of Assessment.	***Competency may be assessed through:*** 3.1 Practical tests 3.2 Observation 3.3 Case studies 3.4 Written tests 3.5 Oral questioning
4. Context of Assessment.	Competency may be assessed: 4.1 On-the-job 4.2 Off-the –job 4.3 During Industrial attachment
5. Guidance information for assessment.	This unit may be assessed on an integrated basis with others within this occupational sector.