

PRODUCE PRE-TREATED TEXTILES

UNIT CODE: ENG/OS/TXP/CR/01/5/A

UNIT DESCRIPTION

This unit describes the competencies required by a textile processing craft person to produce pre-treated textiles. It involves competencies required to obtain grey fabric, inspect grey fabric, carry out singeing, carry out desizing, carry out scouring, carry out bleaching, carry out mercerization carry out washing and document pre-treatment process.

ELEMENTS AND PERFORMANCE CRITERIA

| ELEMENT | PERFORMANCE CRITERIA |
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| These describe the key outcomes which make up workplace function | These are assessable statements which specify the required level of performance for each of the elements <i>(Bold and italicized terms are elaborated in the Range)</i> |
| 1. Obtain grey fabric | 1.1 Work order is received and interpreted according to customer requirements 1.2 Requisition for grey fabric is prepared and issued according to organisational procedures 1.3 Grey fabric is obtained according to organisational procedures 1.4 Grey fabric is delivered to inspection laboratory according to organisational procedures |
| 2. Inspect grey fabric | 2.1 Safety is observed according to OSH act 2.2 Grey fabric reference standards are obtained according to organisational procedures 2.3 Grey fabric is loaded onto inspection machine according to operation procedure 2.4 Surface inspection is carried out according to operation procedure and organisational procedures 2.5 <i>Grey fabric faults</i> identified are corrected where possible according to quality requirements 2.6 Inspected grey fabric is doffed off according to organisational procedures |

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| | 2.7 Inspected grey fabric is stored according to organisational procedures |
| 3. Carry out singeing | <p>3.1 Safety is observed according to OSH act</p> <p>3.2 Grey fabric is loaded onto singeing machine according to operation procedure</p> <p>3.3 Flame intensity is adjusted according fabric properties</p> <p>3.4 Speed of fabric is adjusted according to the quality requirements</p> <p>3.5 Distance between flame and fabric is adjusted according to fabric properties and quality requirements</p> <p>3.6 Angle of the flame is adjusted according to fabric properties and quality requirements</p> <p>3.7 Singeing machine is operated according to operation procedures</p> <p>3.8 Singeing process is monitored according to SOP.</p> <p>3.9 Singeing faults are identified and rectified where possible according to SOP</p> <p>3.10 Singed fabric rolls are doffed according to SOP.</p> <p>3.11 Singed fabric rolls are stored according to organizational procedures.</p> |
| 4. Carry out desizing | <p>4.1 Safety is observed according to OSH act</p> <p>4.2 Desizing recipe is prepared according to organisational procedures</p> <p>4.3 Grey fabric is loaded onto desizing machine according to operation procedure</p> <p>4.4 Desizing machine parameters are set according to operation manual</p> <p>4.5 Desizing rotation time of the batch is set according to quality requirement</p> <p>4.6 Desizing machine is operated according to operation procedures</p> <p>4.7 Desizing process is monitored according to SOP.</p> <p>4.8 Desizing faults are identified and rectified where possible according to SOP</p> <p>4.9 Desized fabric rolls are doffed according to SOP.</p> |

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| | 4.10 Desized fabric rolls are stored according to organizational procedures. |
| 5. Carry out scouring | <p>5.1 Safety is observed according to OSH act</p> <p>5.2 Scouring recipe is prepared according to organisational procedures</p> <p>5.3 Grey fabric is loaded onto scouring machine according to operation procedure</p> <p>5.4 Scouring machine parameters are set according to operation manual</p> <p>5.5 Scouring machine is operated according to operation procedures</p> <p>5.6 Scouring process parameters are monitored according to SOP.</p> <p>5.7 Scouring faults are identified and rectified where possible according to SOP</p> <p>5.8 Scoured fabric rolls are doffed according to SOP.</p> <p>5.9 Scoured fabric rolls are stored according to organizational procedures.</p> |
| 6. Carry out bleaching | <p>6.1 Safety is observed according to OSH act</p> <p>6.2 Bleaching recipe is prepared according to organisational procedures</p> <p>6.3 Grey fabric is loaded onto bleaching machine according to operation procedure</p> <p>6.4 Bleaching machine parameters are set according to operation manual</p> <p>6.5 Steam parameters are set according to operation manual</p> <p>6.6 Bleaching machine is operated according to operation procedures</p> <p>6.7 Bleaching process is monitored according to SOP.</p> <p>6.8 Bleaching faults are identified and rectified where possible according to SOP</p> <p>6.9 Washing off is carried according to quality requirements</p> <p>6.10 Bleached fabric rolls are doffed according to SOP.</p> <p>6.11 Bleached fabric rolls are stored according to organizational procedures.</p> |

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| 7. Carry out mercerization | <p>7.1 Safety is observed according to OSH act</p> <p>7.2 Mercerization recipe is prepared according to organisational procedures</p> <p>7.3 Grey fabric is loaded onto mercerization machine according to operation procedure</p> <p>7.4 Mercerization machine parameters are set according to operation manual</p> <p>7.5 Mercerization machine is operated according to operation procedures</p> <p>7.6 Mercerization process is monitored according to SOP.</p> <p>7.7 Mercerization faults are identified and rectified where possible according to SOP</p> <p>7.8 Washing off and neutralization of the fabric is carried out according organisational procedure</p> <p>7.9 Mercerized fabric rolls are doffed according to SOP.</p> <p>7.10 Mercerized fabric rolls are stored according to organizational procedures.</p> |
| 8. Carry out Washing | <p>8.1 Safety is observed according to OSH act</p> <p>8.2 Washing recipe is prepared according to organisational procedures</p> <p>8.3 Grey fabric is loaded onto washing machine according to operation procedure</p> <p>8.4 Washing machine parameters are set according to operation manual</p> <p>8.5 Washing machine is operated according to operation procedures</p> <p>8.6 Washing process is monitored according to SOP.</p> <p>8.7 Washing faults are identified and rectified where possible according to SOP</p> <p>8.8 Washed fabric rolls are doffed according to SOP.</p> <p>8.9 Washed fabric rolls are stored according to organizational procedures.</p> |
| 9. Document Pre-treatment Process | 9.1 Documentation tools are obtained according to organisational procedures |

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| | <p>9.2 Pre-treatment quality control tests are documented according to organisational procedures</p> <p>9.3 Pre-treatment process is documented according to organisational procedures</p> <p>9.4 Report is generated according to organizational procedures</p> |
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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 |
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| 1. Grey fabric faults may include but is not limited to: | <ul style="list-style-type: none"> • Oil stains • Slubs • Hole • Missing yarn • Fly contact |
| 2. Singeing faults may include but is not limited to: | <ul style="list-style-type: none"> • Uneven singeing • Incomplete singeing • Thermal damage |
| 3. Desizing faults may include but is not limited to: | <ul style="list-style-type: none"> • Incomplete desizing • Uneven desizing |
| 4. Scouring process parameters may include but is not limited to: | <ul style="list-style-type: none"> • Caustic soda concentration • Alkali concentration • Temperature • Reaction time |
| 5. Scouring faults may include but is not limited to: | <ul style="list-style-type: none"> • Incomplete scouring • Stains |
| 6. Bleaching recipe may include but is not limited to: | <ul style="list-style-type: none"> • Sodium hypo chloride • Hydrogen peroxide |
| 7. Bleaching faults may include but is not limited to: | <ul style="list-style-type: none"> • Uneven bleaching • Harsh bleaching • Iron stains |

| Variable | Range |
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| | <ul style="list-style-type: none"> Alkalinity remnants |
| 8. Mercerization recipe may include but is not limited to: | <ul style="list-style-type: none"> Ammonia Caustic soda |
| 9. Mercerization faults may include but is not limited to: | <ul style="list-style-type: none"> Ammonia faults |
| 10. Washing faults may include but is not limited to: | <ul style="list-style-type: none"> Poor smell Poor brightness Poor hand feel Over blasting |

REQUIRED KNOWLEDGE

The individual needs to demonstrate knowledge of:

- Properties of textile raw materials
- Different types of yarns
- Different kinds of fabrics
- Required fabric characteristics
- Required fabric type and properties
- Source of fabric
- Fabric quality
- Standard operating procedures (SOP) to follow
- Sample selection methods
- Surface inspection
- Basic quantitative analysis test and methods
- Fabric grading
- Singeing process, faults and remedies
- Machine parts and components
- Machine operation
- Machine parameters
- desizing process, faults and remedies
- Scouring process, faults and remedies
- Bleaching process, faults and remedies
- Mercerization process, faults and remedies
- Applicable textile standards
- Safety practices and procedures
- Documentation
- Procedure for safe disposal of waste materials

- Mathematics understanding
- Physics

REQUIRED SKILLS

The individual needs to demonstrate skills in:

- Sample collection
- Required fabric selection
- Order placement
- Material reception
- Surface inspection
- Quantitative analysis
- Fabric grading
- Observe safety
- Fabric speed control
- Flame height adjustment
- Machine operation
- Perform desizing, check faults and remedies
- Perform singeing, check faults and remedies
- Perform scouring, check faults and remedies
- Perform bleaching, check faults and remedies
- Perform mercerizing, check faults and remedies
- Follow standard operating procedures
- Planning and sequencing tasks
- Identifying non-compliances
- Communication skills– oral/written
- Manage work efficiently
- Time management
- Troubleshooting
- House keeping
- Effective communication
- Energy conservation
- Good decision making
- Time management
- Report writing
- Record keeping

EVIDENCE GUIDE

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

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| 1 Critical Aspects of Competency. | 1.1 Obtained grey fabric 1.2 Inspected grey fabric 1.3 Carried out singeing |
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| | <ul style="list-style-type: none"> 1.4 Carried out desizing 1.5 Carried out scouring 1.6 Carried out bleaching 1.7 Carried out mercerization 1.8 Carried out washing 1.9 Documented pre-treatment process |
| 2 Resource Implications. | <ul style="list-style-type: none"> 2.1 Fabric lot 2.2 Desizing machine 2.3 Singeing machine 2.4 Bleaching machine 2.5 Scouring machine 2.6 Mercerizing machine 2.7 Washing machine 2.8 Bleaching chemicals 2.9 Washing chemicals 2.10 Mercerizing chemicals 2.11 Scouring chemicals 2.12 pH scale 2.13 PPE 2.14 Thermometer 2.15 Rotating batcher 2.16 Fabric Beams 2.17 Documentation tool and equipment |
| 3 Methods of Assessment. | <p><i>Competency may be assessed through:</i></p> <ul style="list-style-type: none"> 3.1 Practical 3.2 Observation 3.3 Questionnaire 3.4 Case studies 3.5 Written examinations 3.6 Oral presentation |
| 4 Context of Assessment. | Competency may be assessed individually in an actual workplace or in work-simulated conditions within accredited institutions or during industrial attachment. |
| 5 Guidance information for assessment. | This unit may be assessed on an integrated basis with others within this occupational sector. |