

TEXTILE YARN PRODUCTION (SPINNING)

UNIT CODE: ENG/CU/TEX/CR/02/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: Produce Textile Yarns

Duration of Unit: 150 hours

Unit Description

This unit describes the competencies required by a textile technician to produce textile yarns. It involves competencies required to produce blow room lap, carded sliver, draw frame sliver, sliver lap, combed sliver, textile roving, ring spun yarn, yarn winding operations, plied yarns, rotor spun yarn, continuous filament yarns and Control yarn production and quality parameters

Summary of Learning Outcomes

1. Produce blow room lap
2. Produce carded sliver
3. Produce draw frame sliver
4. Produce sliver lap
5. Produce combed sliver
6. Perform yarn winding, doubling and twisting
7. Produce rotor spun yarn
8. Produce continuous filament yarns.
9. Perform minor maintenance on spinning machines
10. Control yarn production and quality parameters

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Produce blow room lap	<ul style="list-style-type: none">• Safety precautions in fibre blending/mixing• Methods of blending• Blow room machine• Textile fibre identification• Quality control in fibre blending/mixing• Blending ratios and calculations	<ul style="list-style-type: none">• Oral questions• Observation• Practical test• Written tests
2. Produce carded sliver	<ul style="list-style-type: none">• Carding machine• Carding production process• Carding machine operation	<ul style="list-style-type: none">• Oral questions• Observation• Practical test

	<ul style="list-style-type: none"> • Carding process monitoring • Carding process defects • Waste management • Production management 	<ul style="list-style-type: none"> • Written tests
3. Produce draw frame sliver	<ul style="list-style-type: none"> • Draw frame setting up • Draw frame production process • 3Draw frame operation • Drawing process monitoring • Drawing process defects • 3Slive frame waste management 	<ul style="list-style-type: none"> • Oral questions • Observation • Practical test • Written tests
4. Produce sliver lap	<ul style="list-style-type: none"> • Lap forming machine • Sliver frame operation • Sliver lap forming process monitoring • Sliver lap forming process defects • Sliver waste management 	<ul style="list-style-type: none"> • Oral questions • Observation • Practical test • Written tests
5. Produce textile roving	<ul style="list-style-type: none"> • Speed frame setting up • Operation of speed frame • Roving process monitoring • Roving process defects 	<ul style="list-style-type: none"> • Oral questions • Observation • Practical test • Written tests
6. Produce ring spun yarn	<ul style="list-style-type: none"> • Rotor spun yarn properties • Rotor spinning machine • Process and quality control in rotor spinning • Fault identification and rectification • Rotor spinning monitoring 	<ul style="list-style-type: none"> • Oral questions • Observation • Practical test • Written tests
7. Perform yarn winding operations	<ul style="list-style-type: none"> • Purpose of winding, plying and twisting • Plying, winding and twisting machines • Winding process parameters • Process and Quality control • Process defects and their correction • Plying, winding and twisting monitoring 	<ul style="list-style-type: none"> • Oral questions • Observation • Practical test • Written tests
8. Produce rotor spun yarn	<ul style="list-style-type: none"> • Safety procedures • Maintenance tools • Adjustments • Waste removal • Lubrication points 	<ul style="list-style-type: none"> • Oral questions • Observation • Practical test • Written tests

	<ul style="list-style-type: none"> • Cleaning points • Lubricants • Machine setting points 	
9. Produce continuous filament yarns	<ul style="list-style-type: none"> • Safety procedures • Production specifications/schedule interpretation • Work implementation planning • Work allocation • Control of spinning resources to ensure smooth work flow • Machine monitoring points • Process fault identification • Process fault rectification • Waste sorting and disposal • Production and efficiency calculation • Process documentation 	<ul style="list-style-type: none"> • Oral questions • Written tests • Observation • Assignments • Practical • Written report
10. Control yarn production and quality parameters	<ul style="list-style-type: none"> • Efficient production • Production efficiency is monitoring. • Production process control • Product process inspection • Process non-conformance 	<ul style="list-style-type: none"> • Oral questions • Written tests • Observation • Assignments • Practical • Written report

Suggested Methods of Instruction

- Instructor led facilitation of theory
- Demonstration by trainer
- Practical work by trainee

Recommended Resources

- Fibres
- Material handling equipment's
- Bale opener or Bale plucker
- Fibre cleaning machines
- Open fibre delivery systems
- Carding machine
- Drawing Frame
- Lap former
- Comber machine
- Simplex

- Ring Frame
- Rotor spinning machine
- Cone winding machine
- Yarn doubling and twisting machine
- Polymer extrusion machine
- Yarn texturizing machine
- Machine maintenance tools

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