

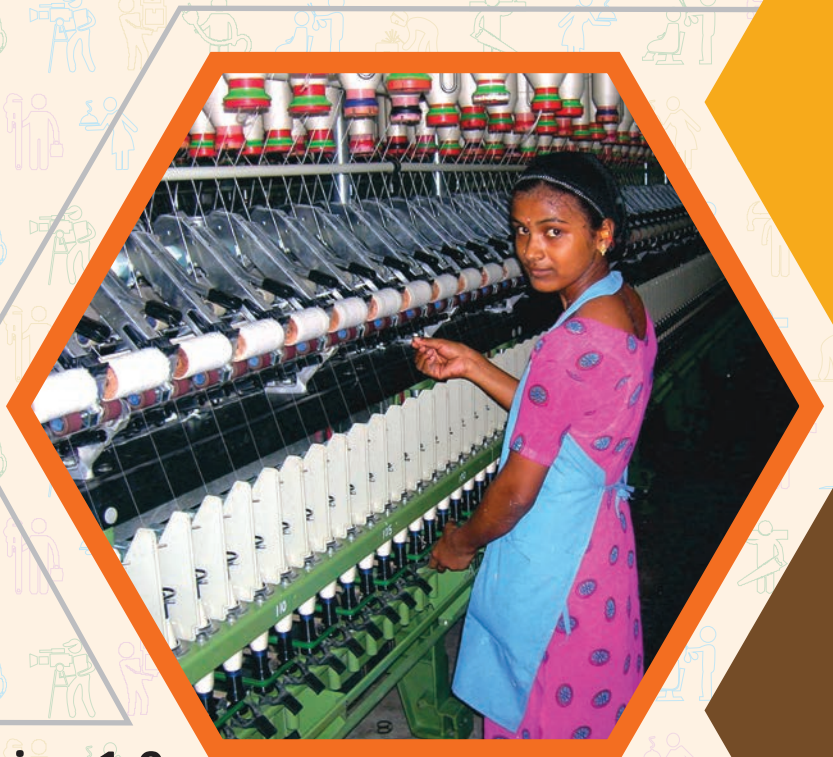
# Participant Handbook

Sector  
**Textile Sector Skill Council**

Sub-Sector  
**Spinning**

Occupation  
**Spinning**

Reference ID: **TSC/Q 0201, Version 1.0**  
**NSQF Level 4**



**Ring Frame Tenter**

**Published by**

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First Edition, July 2017

Printed in India at

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Textile Sector Skill Council

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“ Skilling is building a better India. If we have to move India towards development then Skill Development should be our mission. ”

**Shri Narendra Modi**  
Prime Minister of India





## Certificate

### COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**TEXTILE SECTOR SKILL COUNCIL**

for

### SKILLING CONTENT : PARTICIPANT HANDBOOK

Complying to National Occupational Standards of  
Job Role/ Qualification Pack: **'Ring Frame Tenter'** QP No. **'TSC/Q 0201 ; NSQF Level 4'**

Date of Issuance: **July 7<sup>th</sup>, 2017**

Valid up to\*: **April 1<sup>st</sup>, 2019**

*\*Valid up to the next review date of the Qualification Pack or the  
'Valid up to' date mentioned above (whichever is earlier)*

Dr. J.V. Rao  
CEO  
(Textile Sector Skill Council)



## Acknowledgement

Textile Sector Skill Council (TSC) wishes to appreciate the valuable technical inputs provided by the leading industry players such as Confederation of Indian Textile Industries (CITI), The Southern Indian Mills' Association (SIMA), The South Indian Textile Research Association (SITRA), The Bombay Textile Research Association' (BTRA), NIFT-TEA Knitwear Fashion Institute, and Indian Texpreneurs' Federation for their contribution in developing the content for the Trainee Handbook.

TSC also sincerely thanks Ministry of Skill Development & Entrepreneurship (MSDE) and National Skill Development Corporation (NSDC) in supporting us to prepare the Handbook.

## Endorsements

We thank the following organizations for endorsing the contents of this Participant Handbook, thus contributing towards skilling based on the Qualification Pack (QP) and National Occupational Standards (NOSs)



## About this book

The Textile Skill Sector Council (TSC) is promoted by members associations of Confederation Indian Textile Industry (CITI) is one of the important sector skill council undertaking the skill development activities of spinning, weaving, processing and hand loom textile sectors requirements. National skill Development Corporation (NSDC) approved TSC for above sectors and also extends necessary funding support to skill development.

Ring frame tenter is one of the important category of workmen employed by spinning mills. Though the spinning sector predominantly under organised sector and has been following systematic method for training the workmen also the guidance of textile research association particularly SITRA for decades and recent decades IE division of SIMA. TSC has brought proper system as per the guide lines of NSDC for skill development. Any ring frame tenter adapting the work methods and processes specified in this book would be in a position to acquire the required skills on a fast track and give high productivity and improved quality.

TSC wishes all the ring frame tenters would be using this book to derive full advantage and make the dream of our Honourable Prime Minister “Skill in India” true.

This Participant Handbook is designed to enable training for the specific Qualification Pack (QP). Each National Occupational (NOS) is covered across Unit/s.

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS. The symbols used in this book are described below.

**Key learning:** It says about what you will able to do at the end of each module

**Steps:** Operations procedure were provided in sequent order (step by step)

**Tips:** Guide lines to understand the units easily

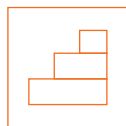
**Notes:** Space provided to reader for taking notes, observations, etc.

**Unit Objectives:** It says about what you will learn exactly from each unit

## Symbols Used



Key Learning  
Outcomes



Steps



Tips



Notes



Unit  
Objectives



## Table of Content

S.No.	Modules and Units	Page No.
<b>1.</b>	<b>Introduction</b>	<b>1</b>
	Unit 1.1 - The Textile industry and spinning sector in India	3
	Unit 1.2 - Spinning	12
	Unit 1.3 - Job role of a ring frame tenter	33
<b>2.</b>	<b>Taking Charge of Shift and Handing Over Shift to Ring Frame Tenter (TSC/ N0201)</b>	<b>35</b>
	Unit 2.1 - Taking charge of shift from ring frame tenter	37
	Unit 2.2 - Handing over shift to the ring frame tenter	51
<b>3.</b>	<b>Creeling the Roving Bobbin at Ring Frame (TSC/ N0202)</b>	<b>59</b>
	Unit 3.1 - Attending the machine for creeling	61
	Unit 3.2 - Piecing the broken roving	68
<b>4.</b>	<b>Piecing the Broken Yarn at Ring Frame (TSC/ N0203)</b>	<b>71</b>
	Unit 4.1 - Identifying the yarn breakage	73
	Unit 4.2 - Piecing the broken yarn	78
	Unit 4.3 - Ensure proper material handling of yarn	86
	Unit 4.4 - Checking the quality of pieced yarn	90
<b>5.</b>	<b>Carryout Cleaning Activities at Ring Frame (TSC/ N0204)</b>	<b>95</b>
	Unit 5.1 - Carryout cleaning activities	97
	Unit 5.2 - Other tenting responsibilities	105
<b>6.</b>	<b>Maintain Work area, Tools and Machines (TSC/ N9001)</b>	<b>113</b>
	Unit 6.1 - Maintain the work area, tools and machines	115
<b>7.</b>	<b>Working in a Team (TSC/ N9002)</b>	<b>121</b>
	Unit 7.1 - Commitment and trust	123
	Unit 7.2 - Communication	125
	Unit 7.3 - Adaptability	127
	Unit 7.4 - Creative freedom	129

<b>8.</b>	<b>Maintain Health, Safety and Security at Workplace (TSC/ N9003)</b>	<b>131</b>
	Unit 8.1 - Comply with health, safety and security requirements at work	133
	Unit 8.2 - Recognizing the hazards	142
	Unit 8.3 - Planning the safety techniques	144
	Unit 8.4 - Implementing the programmes	146
<b>9.</b>	<b>Comply with Industry and Organizational Requirements (TSC/ N9004)</b>	<b>149</b>
	Unit 9.1 - Self-development	151
	Unit 9.2 - Team work	153
	Unit 9.3 - Organizational Standards	155
	Unit 9.4 - Industry Standards	157
<b>10.</b>	<b>Employability Entrepreneurship Skills</b>	<b>159</b>
	Unit 10.1 – Personal Strengths & Value Systems	163
	Unit 10.2 – Digital Literacy: A Recap	182
	Unit 10.3 – Money Matters	187
	Unit 10.4 – Preparing for Employment & Self Employment	197
	Unit 10.5 – Understanding Entrepreneurship	206
	Unit 10.6 – Preparing to be an Entrepreneur	228







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# 1. Introduction

Unit 1.1 – The Textile industry and spinning sector in india

Unit 1.2 – Spinning

Unit 1.3 – Job role of a ring frame tenter



## Key Learning Outcomes

**At the end of this module, you will be able to:**

1. Discuss the scenario of Indian textile industry and its sub-sectors
2. Discuss the process of ring spun yarn manufacturing
3. Define your roles and responsibilities

## UNIT 1.1: The Textile industry and spinning sector in india

### Unit Objectives

At the end of this unit, you will be able to:

1. Discuss about contribution of textile industry in india
2. Learn about different segments in textile industry

### 1.1.1 The Textile Industry in India

Indian textile industry is more than 5000 years old, accounts 12% industry production, 14% earnings, 4% GDP and employ more than 500 million people across the nation particularly people below poverty line and women folks. In the pre-independence era, Indian Textile Industry was prevented from expanding by the British Rulers and they exported our human skills and began dominating in global textile trade. After independence, only the mechanized textile industry in the country started growing. The Industrial Liberalization policy helped the textile industry to increase the capacity rapidly. Now, the country is rich in both natural and man-made resources.

### 1.1.2 Different Segments in Textile Industry

Textile industry consists of different segments namely cotton cultivation, man-made & synthetic fibres manufacturing, other natural fibres manufacturing, ginning, spinning, weaving, knitting, processing, garment, made-ups, technical textiles, etc.

#### 1.1.2.1 Cotton cultivation



Figure 1.1.2.1 Cotton plant

Cotton is the basic raw material (cotton fibre) to cotton textile industry. It is the most important fibre crop for the entire world. India is the world's third largest producer of cotton after China and the USA.

In India, the states of Maharashtra (30%), Gujarat (20%) and Andhra Pradesh (15%) and also Punjab, Haryana and Madhya Pradesh, are the leading cotton producing states, these states have a predominantly tropical wet and dry climate. Cotton in India provides direct income to 10 million farmers and about 50 million people employed in cotton trade and its processing.

### 1.1.2.2 Synthetic & Manmade fibres Manufacturing



Figure 1.1.2.2 Synthetic and man-made fibres (Filament form)

Synthetic fibres are produced directly by the polymerisation of synthetic chemicals at present obtained as by-products of the petro-chemical industry: typical examples are nylon and polyester.

Example: Polyester, Nylon, Acrylic, etc

Manmade fibres are produced from naturally occurring material, mainly wood pulp or cotton lint, and the most commonly used example of this form of fibre is rayon.

Example: Viscose Rayon, Modal, Tencel or Lyocell

### 1.1.2.3 Spinning



Figure 1.1.2.3 Spinning machine

Spinning is the primary stage of textile product processing. The process of making yarns from the textile fibre is called spinning.

Spinning process is varying depending upon the fibre types. There are different methods for spinning yarn which is given in table below.

Table 1.1.2.3 Spinning process types

Fibre type	Spinning method	Type of yarn produced
Staple fibres (Cotton, Man-made & synthetic)	Ring spinning	Carded, Combed, Compact, etc
	Rotor spinning	Open end yarn
	Vortex spinning	Vortex yarn
	Airjet spinning	Airjet spun yarn
Polymer (Synthetic fibres)	Wet spinning	Filament yarn
	Dry spinning	Filament yarn
	Melt spinning	Filament yarn

### 1.1.2.4 Weaving

Weaving is described as inter-lacing, usually at right angles, of two sets of threads to form cloth or other types of woven textiles. Today this process is mostly automated for mass production.



Figure 1.1.2.4.1 Weaving machine

In it, two distinct sets of yarns called the warp and the weft are interlaced with each other to form a fabric. The lengthwise yarns, which run from the back to the front of the loom are called the warp. The crosswise yarns are the filling or weft. A loom is a device for holding the warp threads in place while the filling threads are woven through them.



Figure 1.1.2.4.2 Weaving demonstratio