

Published by

Mahendra Publication Pvt. Ltd.

E- 42, 43, 44, Sector - 7, Noida- 201301

Uttar Pradesh, India.

All Rights Reserved,

First Edition, February 2017

ISBN 978-93-87241-19-0

Printed in India at

Copyright © 2017

Gem & Jewellery Skill Council of India

3rd Floor, BFC Building, SEEPZ SEZ,

Mumbai - 400 096. India.

Email info@gjsoci.org

Web www.gjsoci.org

Phone 022-28293940/41/42

Disclaimer

The information contained here in has been obtained from sources reliable to Gem & Jewellery Skill Council of India. Gem & Jewellery Skill Council of India, disclaims all warranties to the accuracy, completeness or adequacy of such information. Gem & Jewellery Skill Council of India, shall have no liability for errors, omissions, or inadequacies, in the information contained herein, or for interpretations thereof. Every effort has been made to trace the owners of the copyright material included in the book. The publishers would be grateful for any omissions brought to their notice for acknowledgments in future editions of the book. No entity in Gem & Jewellery Skill Council of India, shall be responsible for any loss whatsoever, sustained by any person who relies on this material. The material in this publication is copyrighted. No parts of this publication may be reproduced, stored or distributed in any form or by any means either on paper or electronic media, unless authorized by the Gem & Jewellery Skill Council of India.





Shri Narendra Modi
Prime Minister of India

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



**COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL
STANDARDS**

is hereby issued by the

GEM AND JEWELLERY SKILL COUNCIL OF INDIA
for

SKILLING CONTENT : PARTICIPANT HANDBOOK

Complying to National Occupational Standards of

Job Role/ Qualification Pack: **'Wax Setter'** QP No. **G&J/Q1701/NSQF Level 3'**

Date of Issuance: Jan 20th, 2017

Valid up to*: Jan 19th, 2020

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

P. Umama Kothari
Authorised Signatory

(Gem and Jewellery Skill Council of India)

Acknowledgements

GJSCI would like to thank Vidhya Mazumdar for developing this Participant Handbook. We would also like to take this opportunity to thank Indian Institute of Gems and Jewellery Jaipur (IIGJJ) for their valuable inputs in the book. We thank H.K Designs India & Fine Jewellery for their feedback and suggestions. We appreciate the endless efforts of our Subject Matter Experts to maintain quality of education and skills. We sincerely thank them for inspiring and facilitating students of Gem & Jewellery sector across India.

Sincerely,



Prem Kumar Kothari
Chairman, GJSCI

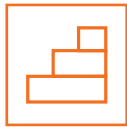
About this book

1. This Participant Handbook is designed to enable training for the specific Qualification Pack(QP).
2. Each National Occupational (NOS) is covered across Unit/s.
3. Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS.
4. The symbols used in this book are described below.
5. This book is about Wax Setting.
6. It includes how a wax setter sets diamonds and gemstones in the wax replica of a jewellery piece for the purpose of casting.

Symbols Used



Key Learning
Outcomes



Steps



Tips



Notes



Unit
Objectives



Exercise

Table of Contents

S.No	Modules and Units	Page No
1.	Introduction	1
	Unit 1.1 - Gem and Jewellery Sector in India	3
	Unit 1.2 - Objectives of the Program	10
	Unit 1.3 - Where does Setting Come in the Casting Process	11
	Unit 1.4 - Job Role of a Wax Setter	12
2.	Set Diamonds and Stones in the Wax Models (G&J/N1701)	15
	Unit 2.1 - Introduction to Wax Setting	17
	Unit 2.2 - Knowledge Requirements Before Starting the Job Work	20
	Unit 2.3 - Reading the Job Sheet	35
	Unit 2.4 - Matching Diamonds and Gemstones as per Job Sheet Requirements	38
	Unit 2.5 - Cleaning and Checking Each Wax Piece	45
	Unit 2.6 - Reporting Defective Pieces to the Supervisor	54
	Unit 2.7 - Selecting the Right Tools and Equipment Required for the Job Work	56
	Unit 2.8 - Using Basic and Advanced Setting Techniques	72
	Unit 2.9 - Handling of Diamonds and Gemstones to Avoid Damage to Stones	76
	Unit 2.10 - Setting Diamonds and Gemstones in Wax Model	84
	Unit 2.11 - Correcting Defects Before Finishing	87
	Unit 2.12 - Finishing the Wax Piece as per Design Requirements	92
	Unit 2.13 - Delivering of Set Wax Piece to Next Department	94
	Unit 2.14 - Achieving Daily Targets	96
	Unit 2.15 - Achieving Quality Standards as per Company	98
	Unit 2.16 - Reworking of Defective Wax Models	100
	Unit 2.17 - Maintaining Quality of Production	102
	Unit 2.18 - Know Your Organization and its Standards	104
	Unit 2.19 - Work Hazards	106
	Exercise	



Skill India
कौशल भारत-कुशल भारत



सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



N · S · D · C
**National
Skill Development
Corporation**

Transforming the skill landscape



1. Introduction

Unit 1.1 – Gem and Jewellery Sector in India

Unit 1.2 – Objectives of the Program

Unit 1.3 – Where does Setting Come in Casting Process

Unit 1.4 – Job Role of a Wax Setter



Key Learning Outcomes

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

1. Understand the significance of Gem and Jewellery Sector in India.
2. Understand your roles and responsibilities.

Unit 1.1: Gem and Jewellery Sector in India

Unit Objectives

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

1. Understand the significance of the gem and jewellery sector in India.

1.1.1 Significance of Gem and Jewellery Sector in India

The Gems and jewellery sector plays a major role within the Indian economy, impacting approximately 6-7 % of the country's gross domestic product (GDP). Being one of the quickest growing sectors, it's particularly export directed and labour intensive.

Based on its potential for growth and worth addition, the government of India has declared the Gems and jewellery sector as focus industry for export promotion. The government has recently undertaken various measures to boost investments and to upgrade technology and skills to market 'Brand India' within the international market.

India's Gems and jewellery sector has been conducive in an exceedingly huge way to the country's foreign exchange earnings (FEEs). The government of India has viewed this industry as a robust area for export promotion.

- With a market size of just about INR 4,54,100 crores, the industry encompasses a massive share of the gross domestic product at approximately 5.9 %, apart from large-scale employment generation and foreign exchange earnings.
- Market research reveals that jewellery accounts for more than a fourth of the optional spending by consumers in India. This combined with rising earning levels in India may be a major growth driver.
- India has a calculable 229 crore women in the age group of 20 to 49. The number of working women in skilled sectors who are considered the amongst the key consumers for jewellery is rising rapidly.
- With over 300 crore individuals falling within the 25-29 age bracket in the period 2011-21, an estimated 150 crore weddings are expected to take place during this period.
- In Tier-3 zones, where landowners and moneylenders are the primary resource of monetary credit, jewellers have emerged as an alternate, providing investment choices through gold jewellery.

1.1.1 Significance of Gem and Jewellery Sector in India

Gem and Jewellery industry classification

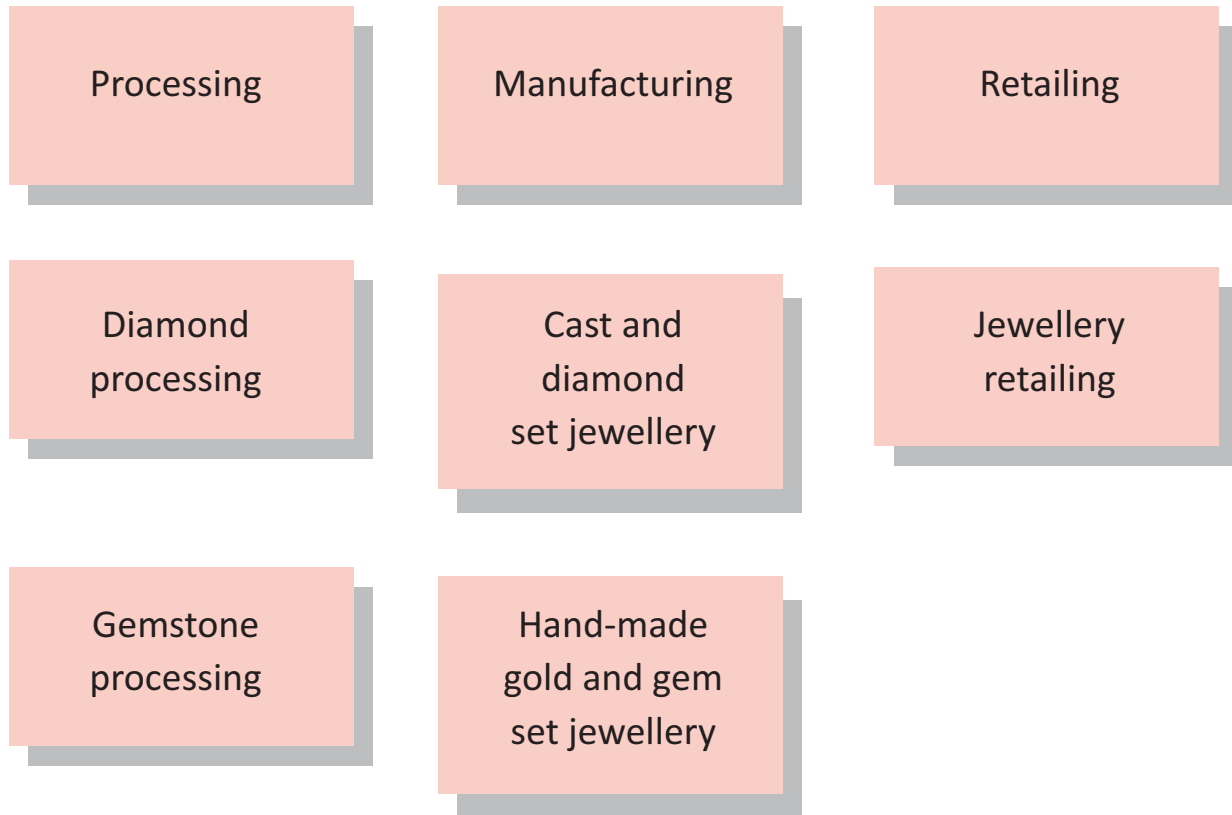


Fig 1.1.1.1

Based on economic activities from NIC-2008, major sub-sectors of sector are: processing (diamond and gemstone), manufacturing (cast and diamond set, and handmade and gem set) and retailing.

1.1.1 Significance of Gem and Jewellery Sector in India

- With a market size of approximately INR 4,54,100 crores, the gem and jewellery segment has a sizeable share of the gross domestic product (GDP) at approximately 5.9%, apart from large-scale employment generation and foreign exchange earnings.
- The highly labor-intensive nature of the sector with large number of employees in the unorganised space, has led to job creation, employing more than 0.464 million people in the country in 2013. This is more than the population of Kolkata, the seventh highest populated city in India with a population of 4.5 crore; this indicates the high employment generation capacity of this sector.
- Indian markets for diamond processing — Surat, Ahmedabad; for gemstone processing — Bhavnagar and Jaipur; and for handmade gold jewellery — Kolkata, Thrissur and Coimbatore — are among other areas that are known world over for their products.
- Every region of the country has a different unique style of jewellery. Some examples of these traditional jewellery forms include Bikaneri, Dhokra, Minakari and Filigree.
- India is a source for manufacturing all varieties of products; and its presence in the worldwide gems and jewellery sector is of much importance.

1.1.1 Significance of Gem and Jewellery Sector in India

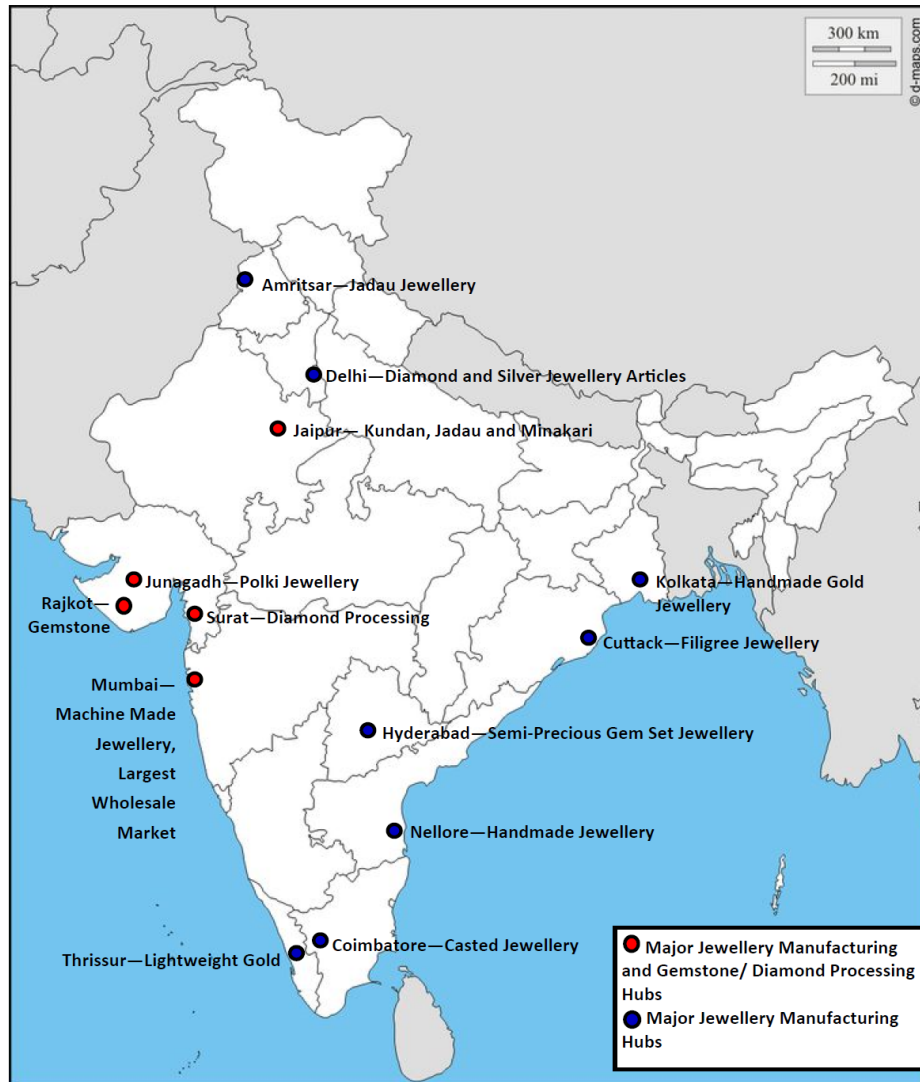


Fig 1.1.1.2 Geographical Markets: Employment Zones in India

- Over two-thirds of the sector work force in India are working in the processing and manufacturing areas of the value chain.
- These workforces are employed in certain zones, as indicated in the map above.
- The retailing manpower extends across India ranging from major metro cities in urban areas to the smallest towns in rural areas.

1.1.1 Significance of Gem and Jewellery Sector in India

Processing and Manufacturing Markets:

- Employment is concentrated in the states of Rajasthan, Gujarat, Maharashtra, West Bengal and the Southern states of Kerala and Tamil Nadu.
- Amritsar and Jaipur are well-known for Kundan and Jadau jewellery with Minakari work, while Delhi – NCR is known for silver jewellery. Further, Jaipur is also one of the biggest coloured gemstone cutting and polishing centre in the world.
- Surat is the world's largest diamond processing centre and processes about 85 percent of the rough diamond imports of India. Surat has a large group of workforce and is also home to the world's leading diamond institute, the Indian Diamond Institute (IDI).
- Besides being the largest trading centre and wholesale market in India, Mumbai, is also a significant centre for cast and diamond set jewellery.
- SEEPZ in Mumbai alone accounts for almost a quarter of the jewellery exports to USA, the world's largest jewellery consuming country.
- Thrissur is a hub for lightweight plain gold jewellery, a style traditional to Kerala, while Coimbatore is known for electroformed jewellery.
- Kolkata is renowned for handmade gold jewellery.
- Its importance also comes from the fact that a large number of skilled artisans in India hail from this region. However, off lately there has been a decline in the number of skilled artisans mainly due to a decrease in inherited talents.