

ISO 9001: 2015	Document No: TDG 0039	Version No: 2.0	Date Effective: 01.08.2022
Document Title: Schedule of technical requirements for manufacture and supply of SGCI inserts			



RESEARCH DESIGNS & STANDARDS ORGANIZATION

Manaknagar, Lucknow – 226011

Document No: TDG 0039

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1.0 Amendment History:

S. N.	Amendment Date	Version	Reasons for Amendment
1	05.11.2013	1.0	First issue under new documentation system for ISO 9001:2008.
2	21.06.2022	2.0	Decontrol of item vides Railway Board's letter no. 2022/Tk-II/7/1 dated 09.02.2022 & 22.02.2022.

2.0 PURPOSE:

This guideline covers all technical requirements for manufacturing and supply of SGCI Inserts.

3.0 SCOPE OF APPLICATION:

This document shall be applicable to mention minimum infrastructure facility for manufacturing of SGCI Insert.

4.0 PROCEDURE / DETAILS:

4.1 SCHEDULE OF TECHNICAL REQUIREMENTS:

The firms must have the Minimum facilities & machinery required for manufacture of SGCI Inserts as stipulated in Annexure-I.

5.0 REFERENCED DOCUMENTS

S.N.	Document Name	Document No.
1.	IRS Specification for SGCI Inserts	IRS: T-46 (1996)(Latest version)
2.	ISO Apex Document- Latest Version	ISO Apex Document- Latest Version

6.0 REFERENCED DOCUMENTS OF EXTERNAL ORIGIN

None.

ADE/S&F	Director/ Track- IV	Printed: 21.06.2022
Prepared By:	Issued By:	Page 1 of 5

ISO 9001: 2015	Document No: TDG 0039	Version No: 2.0	Date Effective: 01.08.2022
Document Title: Schedule of technical requirements for manufacture and supply of SGCI inserts			

7.0 ASSOCIATED RECORDS

None.

8.0 RESPONSIBILITY AND AUTHORITY:

Activity	Responsible	Approver	Supporting	Consulted	Informed
Creation, maintenance of this document	ED/Track Design-III & Director/ Track Design-IV	PED/Infra-I	DD/AIE/ARO/ADE	M&C Dte.	All vendors/ concerned through website
Compliance of directives contained in this document	DD/AIE/ADE	ED/Track Design-III / Director/Track Design-IV	Respective staff	-	-
Requirement of deviation from this directive	Director/Track Design-IV	PED/Infra-I	DD/ AIE /ADE	M&C Dte.	All vendors/ concerned through website

9.0 ABBREVIATIONS

PED/Infra-I	Principal Executive Director/Infra-I
ED/Track Design-III	Executive Director/Track Design-III
RDSO	Research Designs & Standards Organization
DD	Dy. Director
AIE	Assistant Inspecting Engineer.
ADE	Assistant Design Engineer

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Annexure-I

SCHEDULE OF TECHNICAL REQUIREMENTS FOR MANUFACTURE AND SUPPLY OF SGCI INSERTS:

Name of the firm: -

Work's Address: -

S.N	Description	Min. facilities/ Equipment		Actual Facilities/ Equipment' s available		Rema rks
		3	4	5	6	
1	2	3	4	5	6	7
1.	Melting facilities:					
a)	Electrical melting furnace with control panel	Medium frequency	1 No.			
b)	Temperature measuring device		1 No.			
c)	Treatment ladle with tundish cover or GF ladle	1000 to 1500 Kg	1 No.			
d)	Weighing scale machine		1 No.			
2.	Pattern shop:					
a)	Surface plate	60 cm x 60cm	1 No.			
b)	Height gauge	60 cm x 60cm	1 No.			
c)	Vernier calliper	30 cm	1 No.			
d)	Clamp		1 No.			
e)	Slip gauge, etc.		1 No.			
3.	Sand plant:	Intensive sand mixing plant				
a)	Moulding machine with air compressor/HPML		1 Set			
b)	Iron Separator		1 No.			
c)	Sieves		1 No.			
d)	Mould Boxes(Only for jolt squeeze Machine)		20 pairs			
e)	Mould hardness tester		1 No.			
f)	Sand Mixer	250 Kg	2 No.			
4.	Core making facilities:					
a)	Core Sand Muller/Core shooter	100 Kg	1 No.			
b)	Core Drying Oven/furnace(for Core Sand Muller only)		1 No.			

ISO 9001: 2015	Document No: TDG 0039	Version No: 2.0	Date Effective: 01.08.2022
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c)	Core hardness Tester		1 No.			
5.	Sand Testing Facilities					
a)	Sieve Set		1 Set			
b)	Sieve Shaking machine		1 No.			
c)	Rapid Moisture Tester		1 No.			
d)	Permeability Meter		1 No.			
e)	Sand Weighing Balance		1 No.			
f)	Sand Rammer		1 No.			
g)	Sand Rammer Base Block		1 No.			
h)	Compressive Strength Testing Machine		1 No.			
i)	Shatter Index Testing		1 No.			
6.	Vibrator/Knocking		1 No.			
7.	Tumblasting Machine:	300 Kg	1 No.			
8.	Fettling/Dressing Facilities:					
a)	Bench Grinder		4 No.			
b)	Pencil Grinder		1 No.			
9.	Turning/ Machine Shop Facilities					
a)	Lathe Machine		1 No.			
b)	Drilling Machine		1 No.			
c)	Milling Machine (optional)		1 No.			
10.	Chemical Laboratory:					
a)	Carbon Sulphur determination Apparatus with Accessories		1 No.			
b)	Chemical Balance		1 No.			
c)	Muffle Furnace with Automatic Temperature control		1 No.			
d)	Hot Plate		1 No.			
e)	Electric Oven		1 No.			
f)	Barometer		1 No.			
g)	Hydrometer		1 No.			
h)	Water Distillation Plant		1 No.			
i)	Reagents & Glass Wares for analyzing c, Si, Mn, S, P, Cr, V, Ni etc.		1 Set			
j)	Spectrometer(optional)		1 No.			

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11.	Physical Laboratory					
a)	Universal Testing Machine	20 Tonne	1 No.			
b)	Brinell Hardness Test Machine with Standard Testing Block	Micro-Processor based	1 No.			
c)	Metallurgical Microscope with Minimum Magnification of 100x	Microprocess or based microscope along with image analyzer	1 No.			
d)	Polishing Machine		1 No.			
e)	Charts and Tables for Nodule Count, Nodularity and hardness conversion		1 Set			
f)	Inspection Gauges & Jigs	Chromium /Nickel coated	3 Sets			
g)	Hammer Test Arrangement as shown in Annexure-XII of IRS/T-46 (latest version)		1 No.			
12.	Documents:					
a)	Drawing Nos. RDSO/T-381 ,RDSO/T-454, RDSO/T-6901 & RDSO/T-6943 (Latest Alteration)	1 set				
b)	IRS.T-46-(1996)	1 No.				
c)	Specifications as listed in IRS/T-46(1996)	1 set				