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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 5517 (1993): Steels for Hardening and Tempering [MTD 16: Alloy Steels and Forgings]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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IS 5517 : 1993  
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भारतीय मानक  
कठोरण एवं पायनन के लिए इस्पात — विशिष्ट  
( दूसरा पुनरीक्षण )

*Indian Standard*  
STEELS FOR HARDENING AND  
TEMPERING — SPECIFICATION  
( *Second Revision* )

Second Reprint JUNE 2001

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BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

November 1993

Price Group 6

Alloy Steels and Special Steels Sectional Committee, MTD 16

#### FOREWORD

This Indian Standard ( Second Revision ) was adopted by the Bureau of Indian Standards, after the draft finalized by the Alloy Steels and Special Steels Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1969 and revised in 1978. On the basis of experience gained in the production and use of steels, it has been decided to revise the standard again. The following major modifications have been incorporated in this revision:

A few new grades such as, 42CrV6, 50Cr4V2, 58Cr4V1, 49MnVS3, 37Mn5Si5, 55Si6Cr3 and 45CrSi9 have been introduced.

Carbon and Molybdenum content in 40Cr4Mo3 grade have been limited to make it cost effective and better responsive to induction hardening.

The revision has been carried to make the specification more quality-oriented for which a few tests such as, step down test, blue fracture test, magnetic particle test, etc, have been introduced.

Many new clauses have been introduced and existing clauses suitably modified to make the standard complete in itself.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values ( revised ) '. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**AMENDMENT NO. 2 AUGUST 2006  
TO  
IS 5517 : 1993 STEEL FOR HARDENING AND  
TAMPERING — SPECIFICATION**

*( Second Revision )*

( Page 10, Table 5, Steel Designation '25Cr15Mo6', col 2, row 5 ) —  
Substitute '1 540 Min' for '1 500 Min'

( Page 10, Table 5, Steel Designation '25Cr15Mo6', col 3, row 5 ) —  
Substitute '1 240' for '1 300'

( Page 10, Table 5, Steel Designation '40Ni6Cr4Mo3', col 2, row 5 ) —  
Substitute '1200 to 1350' for '1200 to 1250'.

( Page 10, Table 5, Grade 40Ni6Cr4Mo3, col 2, row 6 ) — Substitute  
'1 550' for '1 500'

( Page 11, Table 5, Steel Designation '30Ni10Cr3Mo6' ) — Substitute  
'31Ni10Cr3Mo6' for '30Ni10Cr3Mo6'.

( Page 11, Table 6, col heading 3 ) — Substitute 'Max' for 'Min'

( Page 12, Table 6, Grade 55Cr3, col 3 ) — Substitute '250' for '250 Max'

( Page 12, Table 6, Grade 40Ni14, col 3 ) — Substitute '250' for '250 Max'

( Page 12, Table 6, Steel Designation '40Ni16Cr4Mo2' ) — Substitute  
'40Ni6Cr4Mo2' for '40Ni16Cr4Mo2'.

( Page 12, Table 6, Steel Designation '40Ni16Cr4Mo3' ) — Substitute  
'40Ni6Cr4Mo3' for '40Ni16Cr4Mo3'

( MTD 16 )

Reprography Unit, BIS, New Delhi, India

**AMENDMENT NO. 1 AUGUST 1999  
TO  
IS 5517 : 1993 STEELS FOR HARDENING AND  
TEMPERING — SPECIFICATION**

*( Second Revision )*

*( Foreword, para 2, line 4 ) — Substitute '42Cr6V1' for '42CrV6'.*

*( Page 4, Table 2, col 3, row 31 and 32 ) — Substitute '0.40 to 0.70' for '0.40 to 0.90' for grade 30Ni13Cr5.*

*( Page 8, Table 4, col 1, row 21 ) — Substitute '42Cr6V1' for '42CrV6'.*

*( Page 10, Table 5, col 1, row 1 ) — Substitute '50Cr4V2' for '55Cr4V2'.*

*( Page 10, Table 5, col 1, row 9 ) — Substitute '42Cr6V1' for '42CrV6'.*

*( Page 10, Table 5, col 1, row 28 ) — Substitute '25Cr13Mo6' for '25Cr15Mo6'.*

*( Page 11, Table 5, col 2, row 5 ) — Substitute '1.200-1.250' for '1.200-1.350'.*

*( Page 11, Table 5, col 1, row 7 ) — Substitute '31Ni10Cr13Mo6' for '40Ni10Cr13Mo6'.*

*( Page 11, Table 5, Note 2, line 2 ) — Substitute '1 kgf/mm<sup>2</sup> = 9.81 N/mm<sup>2</sup>' for '1 Kgf/mm<sup>2</sup> = 9.91 N/mm<sup>2</sup>'.*

*( Page 11, Table 6, col 1, row 15 ) — Substitute '42Cr6V1' for '42CrV6'.*

*( Page 11, Table 6, col 1, row 30 ) — Substitute '30Ni13Cr5' for '30Ni13Cr2'.*

( MTD 16 )

Reprography Unit, BIS, New Delhi, India

IS 5517 : 1993

*Indian Standard*  
**STEELS FOR HARDENING AND  
TEMPERING — SPECIFICATION**  
*(Second Revision)*

**1 SCOPE**

**1.1** This standard covers the technical and delivery requirements for wrought alloyed and unalloyed steels in the form of bars, rods, flats, plates, forgings, etc. to be used in the hardened and tempered condition.

**1.2** The steels covered by this standard are in general intended for forgings and machining of parts for engineering or automobile purposes.

**2 REFERENCES**

The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
228	Methods of chemical analysis of steels ( <i>second revision</i> )
1500 : 1983	Brinell hardness test for metallic materials ( <i>second revision</i> )
1598 : 1977	Izod impact test for metals ( <i>first revision</i> )
1608 : 1972	Tensile testing of steel products ( <i>first revision</i> )
2049 : 1978	Colour code for the identification of wrought steels for general engineering purposes
3469 : (Parts 1 to 3) 1974	Tolerances for closed die steel forging ( <i>first revision</i> )
3664 : 1981	Code of practice for ultrasonic pulse echo testing by contact and immersion methods ( <i>first revision</i> )
3711 : 1966	Selection and preparation of samples and test pieces for mechanical test for wrought steel
3739 : 1987	Dimensional tolerances for carbon and alloy constructional steel products ( <i>first revision</i> )

*IS No.*

*Title*

3848 : 1981	End quench test for harden ability of steel ( <i>first revision</i> )
4163 : 1982	Method for determination of inclusion content in steel by macroscopic method ( <i>first revision</i> )
4748 : 1968	Method for estimating average grain size of metals ( <i>first revision</i> )
8910 : 1978	General technical delivery requirements for steel and steel products
10138	Macroscopic method for determination of non-metallic inclusion content in wrought steel
( Part 1 ) : 1982	Blue fracture test method
( Part 2 ) : 1983	Step machined test method
( Part 3 ) : 1983	Magnetic particle inspection method

**3 SUPPLY OF MATERIAL**

**3.1** General requirements relating to the supply of material shall conform to IS 8910 : 1978.

**3.2** Steels covered by this standard shall be ordered and delivered in any one of the basis given in Table I.

**3.3** The particulars to be specified by the purchaser while ordering for steels covered by this specification should be as given below:

- a) Grade,
- b) Delivery condition,
- c) Size,
- d) Finish,
- e) Test requirement,
- f) Special requirements, such as bundling and packing, and
- g) Test report, if required.



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**Table 1 Delivery Condition for Ordering of Steels**  
 (Clause 3.2)

Requirements	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
<b>1 Chemical</b>																						
composition	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>2 Hardenability</b>																						
(jominy)					x	x	x	x									x	x	x			
<b>3 Hardness</b>																						
Maximum value as annealed	x					x					x			x			x				x	
Maximum value as treated for improved machinability		x					x					x			x			x				x
Maximum value as rolled/forged				x				x					x			x			x			x
<b>4. Mechanical properties</b>										x	x	x	x									
<b>5 Special cleanliness test</b>																						
Step down test/Blue fracture test														x	x	x	x	x	x	x	x	x
<b>6 Crack testing (Magnetic particle)</b>																				x	x	x
<b>NOTES</b>																						
1 Other modes of deliveries if justified by the quality requirements of the parts either for manufacturing or for end use can be specially agreed to at the time of enquiry and order																						
2 For modes of deliveries with hardenability/mechanical properties guarantee minor variation from chemical composition from Table 2 is permissible																						
3 For closer bands of hardenability and acceptance level of cleanliness by step down test, agreement should be made at the time of enquiry and order																						
4 Cleanliness rating by step down test/Blue fracture test is not applicable to free cutting steel																						

#### 4 MANUFACTURE

4.1 Unless otherwise agreed to in the order, the processes used in making the steel and the product shall be left to the discretion of the manufacturer, but the steel shall be fully killed. When so desired, the purchaser shall be informed of the steel making process.

However, for continuously cast steels and for steels in specially treated condition, like Electro-flux refined, Vacuum degassed, Secondary refined, etc, the steel making process should be agreed to at the time of enquiry and order.

For continuously cast bar/billets, a minimum reduction ratio of 6 : 1 between the cast product and the final product is recommended. However other reduction ratios may be mutually agreed upon between the manufacturer and the purchaser at the time of enquiry and order.

4.2 The steels may be made by agreement with the addition of micro alloying elements like Titanium, Niobium Vanadium, Boron, etc, either individually or in combination.

4.3 Sufficient reduction and discard shall be made to ensure freedom from piping, harmful segregation, etc, as assessed by macroetching and/or ultrasonic testing. The acceptance standard shall be mutually agreed upon at the time of enquiry and order.

#### 5 FREEDOM FROM DEFECTS

5.1 The material shall be free from such surface and internal defects which may impair the end use.

The method of evaluating surface and internal defects and their allowable limits shall be mutually agreed to at the time of enquiry and order.

5.2 Removal of surface defects, by appropriate means, shall be permitted provided that the remaining dimensions, after defect removal is not less than specified at any point of the bar or billet etc, and that the operation is not likely to affect the processing of the material. Removal of surface defects beyond this level may be permitted only on approval of the purchaser.

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## 6 CHEMICAL COMPOSITION

6.1 The ladle analysis of steels shall be as given in Table 2. The analysis of steels shall be carried out either by the method specified in IS 228 and its relevant parts or any other established instrumental/chemical method.

In case of any dispute the procedure given in IS 228 and its relevant parts shall be referee method. However, where method is not given in IS 228 and its relevant parts, the referee method shall be as agreed to between the purchaser and the manufacturer.

### 6.2 Check Analysis

The check analysis shall be carried out on the finished product. The permissible variation of the check analysis for the limit specified in Table 2 shall be as given in Table 3.

6.3 Elements not specified in Table 2 shall not be added to the steels except where agreed to, other than

for the purpose of finishing the heat, and shall not exceed the following limits, if present

Constituent	Percent, Max
Chromium	0.25
Nickel	0.25
Copper	0.35
Vanadium	0.05
Molybdenum	0.05
Boron	0.0003
Tin	0.05

#### NOTES

1. All reasonable precautions shall be taken to prevent the addition from scrap or other materials used in manufacture of such elements which affect the hardenability, mechanical properties and applicability.

2. Trace elements when added together should not exceed 0.6 percent, however, restricted limits could be mutually agreed upon between the manufacturer and the purchaser at the time of enquiry and order.

3. % Copper +  $10 \times (\% \text{ Tin})$  shall not exceed 0.60 percent.

Table 2 Chemical Composition of Steels for Hardening and Tempering  
(Clauses 6.1, 6.2, 6.3, 11.2 and 15.1)

Steel Designation (1)	Constituent, Percent									
	C (2)	Mn (3)	Si (4)	Ni (5)	Cr (6)	Mo (7)	V (8)	Al (9)	S (10)	P (11)
									Max	Max
30C8	0.25 to 0.35	0.60 to 0.90	0.10 to 0.35	—	—	—	—	—	0.35	0.35
35C8	0.30 to 0.40	0.60 to 0.90	0.10 to 0.35	—	—	—	—	—	0.35	0.35
40C8	0.35 to 0.45	0.60 to 0.90	0.10 to 0.35	—	—	—	—	—	0.35	0.35
45C8	0.40 to 0.50	0.60 to 0.90	0.10 to 0.35	—	—	—	—	—	0.35	0.35
50C8	0.45 to 0.55	0.60 to 0.90	0.10 to 0.35	—	—	—	—	—	0.35	0.35
55C8	0.50 to 0.60	0.60 to 0.90	0.10 to 0.35	—	—	—	—	—	0.35	0.35
40C10S18	0.35 to 0.45	0.80 to 1.20	0.25 Max	—	—	—	—	—	0.14 to 0.22	0.060
40C15S12	0.35 to 0.45	1.30 to 1.70	0.25 Max	—	—	—	—	—	0.08 to 0.15	—
20C15	0.16 to 0.24	1.30 to 1.70	0.10 to 0.35	—	—	—	—	—	0.35	0.35
27C15	0.22 to 0.32	1.30 to 1.70	0.10 to 0.35	—	—	—	—	—	0.35	0.35
37C15	0.32 to 0.42	1.30 to 1.70	0.10 to 0.35	—	—	—	—	—	0.35	0.35
35Mn6Mo3	0.30 to 0.40	1.30 to 1.80	0.10 to 0.35	—	—	0.20 to 0.35	—	—	0.35	0.35
35Mn6Mo4	0.30 to 0.40	1.30 to 1.80	0.10 to 0.35	—	—	0.35 to 0.55	—	—	0.35	0.35
37Mn5Si5	0.33 to 0.41	1.10 to 1.40	0.10 to 1.40	—	—	—	—	—	0.35	0.35

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Table 2 (Concluded)

Steel Designation	Constituents, Percent									
	C	Mn	Si	Ni	Cr	Mo	V	Al	S	P
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) Max	(11) Max
42Cr6V1	0.37 to 0.47	0.50 to 0.80	0.15 to 0.35	—	1.40 to 1.70	—	0.07 to 0.12	—	.035	.035
45Cr5i9	0.40 to 0.50	0.30 to 0.60	2.75 to 3.25	—	8.50 to 9.50	—	—	—	.035	.035
46V1S3	0.42 to 0.50	0.60 to 1.00	0.60 Max	—	—	—	0.06 to 0.13	—	0.045 to 0.065	.035
58Cr4V1	0.53 to 0.63	0.80 to 1.10	0.15 to 0.5	—	0.90 to 1.20	—	0.07 to 0.12	—	.035	.035
50Cr4V2	0.45 to 0.55	0.70 to 1.10	0.15 to 0.40	—	0.90 to 1.20	—	0.10 to 0.20	—	.035	.035
55Cr3	0.50 to 0.80	0.60 to 0.80	0.10 to 0.35	—	0.60 to 0.80	—	—	—	.035	.035
55Si6Cr3	0.50 to 0.60	0.50 to 0.80	1.20 to 1.60	—	0.50 to 0.80	—	—	—	.035	.035
40Cr4	0.35 to 0.45	0.60 to 0.90	0.10 to 0.35	—	0.90 to 1.20	—	—	—	.035	.035
42Cr4Mo2	0.38 to 0.45	0.60 to 0.90	0.10 to 0.35	—	0.90 to 1.20	0.15 to 0.30	—	—	.035	.035
15Cr13Mo6	0.10 to 0.20	0.40 to 0.70	0.10 to 0.35	—	2.90 to 3.40	0.45 to 0.65	—	—	.035	.035
25Cr13Mo6	0.20 to 0.30	0.40 to 0.70	0.10 to 0.35	—	2.90 to 3.40	0.45 to 0.65	—	—	.035	.035
40Cr13Mo10V2	0.35 to 0.45	0.40 to 0.70	0.10 to 0.35	—	3.00 to 3.50	0.90 to 1.10	0.15 to 0.25	—	.035	.035
40Cr7Al10Mo2	0.35 to 0.45	0.40 to 0.70	0.10 to 0.35	—	1.50 to 1.80	0.10 to 0.25	—	0.90 to 1.30	.035	.035
40Ni14	0.35 to 0.45	0.50 to 0.80	0.10 to 0.35	3.20 to 3.60	0.30 Max	—	—	—	.035	.035
35Ni5Cr2	0.30 to 0.40	0.60 to 0.90	0.10 to 0.35	1.00 to 1.50	0.45 to 0.75	—	—	—	.035	.035
30Ni13Cr5	0.26 to 0.34	0.40 to 0.90	0.10 to 0.35	3.90 to 4.30	1.00 to 1.40	—	—	—	.035	.035
40Ni6Cr4Mo2	0.35 to 0.45	0.40 to 0.70	0.10 to 0.35	1.20 to 1.60	0.90 to 1.30	0.10 to 0.20	—	—	.035	.035
40Ni6Cr4Mo3	0.35 to 0.45	0.40 to 0.70	0.10 to 0.35	1.25 to 1.75	0.90 to 1.30	0.20 to 0.35	—	—	.035	.035
31Ni10Cr3Mo6	0.27 to 0.35	0.40 to 0.70	0.10 to 0.35	2.25 to 2.75	0.50 to 0.80	0.40 to 0.70	—	—	.035	.035
40Ni10Cr3Mo6	0.36 to 0.44	0.40 to 0.70	0.10 to 0.35	2.25 to 2.75	0.50 to 0.80	0.40 to 0.70	—	—	.035	.035

NOTES

- 1 In special cases, it may be desirable that the range of carbon content should be more closely controlled than in the range specified above. When this is necessary, restricted ranges of carbon may be agreed to between the purchaser and the manufacturer.
- 2 Sulphur in the range of .02 to .035 or any other range may be agreed to between the manufacturer and the purchaser.
- 3 For direct and single quenched process, fully Al killed, fine grained steel should be used.

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**Table 3 Permissible Variation in Check Analysis**  
(Clause 6.2)

Element	Permissible Content In Ladle Analysis, Percent	Permissible Variation In Product Analysis, Percent
(1)	(2)	(3)
Carbon	Up to 0.50 Over 0.50 to 0.63	$\pm 0.02$ $\pm 0.03$
Silicon	Up to 0.50	$\pm 0.03$
Manganese	Up to 1.00 Over 1.00 up to 1.80	$\pm 0.04$ $\pm 0.06$
Nickel	Over 1.00 up to 1.75 Over 2.25 up to 4.30	$\pm 0.05$ $\pm 0.07$
Chromium	Up to 2.00 Over 2.00 up to 3.50	$\pm 0.05$ $\pm 0.10$
Molybdenum	Up to 0.30 Over 0.30 up to 0.50 Over 0.50 up to 1.10	$\pm 0.03$ $\pm 0.04$ $\pm 0.05$
Sulphur	Up to 0.065 Over 0.065 up to 0.22	$\pm 0.005$ $\pm 0.03$
Phosphorous	Up to 0.060	$\pm 0.005$
Vanadium	Up to 0.25	$\pm 0.02$
Aluminum	0.90 to 1.30	$\pm 0.10$

NOTE -  $\pm$  means that in one cast the deviation may occur over the value or under the lower value of the specified range in Table 2 not both at the same time

## 7 HEAT TREATMENT

7.1 Recommended temperature for hot working and heat treatments aimed at controlling the hardness, machinability, shearability, etc. are given in Table 4 for guidance only.

7.2 The mechanical properties in the hardened and tempered conditions for various limiting ruling section are specified in Table 5

7.3 Only steels with inherently fine grain structure may be subjected to direct quench, provided the test bars comply with the mechanical properties specified in Table 5.

## 8 HARDNESS

8.1 The hardness requirements for steel delivered in the conditions 'as rolled (R)' (for guidance only), annealed to 'maximum hardness (A)' or 'treated to improved machinability (M)' shall be as given in Table 6

8.2 Maximum as rolled hardness for steels for improved cold shearability or the range of hardness for improved machinability, if the values are different from as given in Table 6 shall be mutually at the time of enquiry and order

8.3 Hardness values given in Table 6 shall be determined in accordance with IS 1500 : 1983<sup>1</sup>

## 9 MECHANICAL PROPERTIES

9.1 The properties given in Table 5 shall be applicable to test bars taken of rounds in the direction of rolling fibre, the axis of which corresponds to Fig. 1

9.2 For rectangular sections, the range of equivalent sections shall be as given in Fig. 2

9.3 Methods for determining the mechanical properties specified in Table 5 shall be in accordance with IS 1598 : 1977 and IS 1608 : 1972.

9.4 If required, the mechanical properties of the reference test bars after hardening and tempering in accordance with Table 6 shall conform to the requirements given in Table 5. Values other than specified in Table 5 shall be mutually agreed at the time of enquiry and order.

## 10 GRAIN SIZE

10.1 Unless otherwise agreed, the steel when tested for grain size in accordance with IS 4748 : 1988 shall show grain size in the range of 5 to 8 for inherently fine grained steel.

10.2 Steel with grain size outside the range of 5 to 8 (for example, microalloyed steels) may however, be supplied with mutual agreement.

10.3 The grain size shall be considered satisfactory if 70 percent of grains are within the specified limits, but the remaining 30 percent of the grains falling either one size below or above the range and not spreaded at both ends of the range.

## 11 CLEANLINESS OF THE STEEL

11.1 Inclusion rating of the steel shall be determined in accordance with IS 4163 : 1982. The worst field of each inclusion from each specimen shall be recorded as a rating for the specimen. The inclusion rating for the specimen shall not exceed the following limits

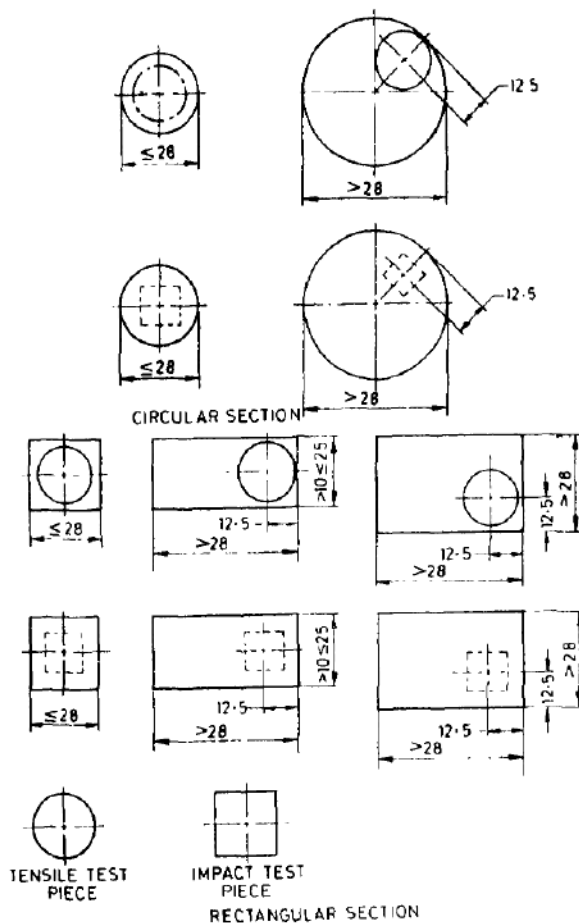
- For air melted quality (ABCD 3 Max)  
(thick and thin series)
- For vacuum, EFR or Secondary refined steel  
The inclusion rating shall be mutually agreed upon at the time of enquiry and order

11.2 When required and ordered, cleanliness of the steel can also be assessed by step down test, Blue fracture test, and magnetic particle tests methods as per IS 10138 (Part 1) : 1982, IS 10138 (Part 2) : 1983 and IS 10138 (Part 3) : 1983 or agreed to at the time of enquiry and order

The acceptance level of non-metallic inclusions shall be, however, mutually agreed keeping in view of the process limitations and end use of the material

The clause is not applicable for free cutting grade of steel as given in Table 2

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All dimensions in millimetres.

FIG.1 LOCATION OF THE TEST PIECES IN THE PRODUCTS TO BE DELIVERED

## 12 HARDENABILITY

**12.1** For steels ordered on the basis of end quench hardenability, the requirements shall be as given in Table 7 or mutually agreed to between the purchaser and the manufacturer.

**12.2** The method of testing hardenability of steels shall be in accordance with IS 3848 : 1981

## 13 DIMENSIONAL TOLERANCES

**13.1** The dimensional tolerances for hot rolled steel products shall be in accordance with IS 3739 : 1987. Any additional stipulation on dimensions may be mutually agreed at the time of enquiry and order, if the forging process or the product so calls for.

**13.2** For forged steel bars, billets, blooms, etc, the tolerances shall be in accordance with IS 3469 (Parts 1 to 3) : 1974

## 13.3 Tolerance on Straightness

Unless otherwise agreed to between the purchaser and the manufacturer, the steel shall be supplied in straightened condition with the following limits

Nominal Size/Section	Maximum Permissible Deviation for Straightness
40 mm and below	6 mm/metre length
41 mm and above	5 mm/meter length

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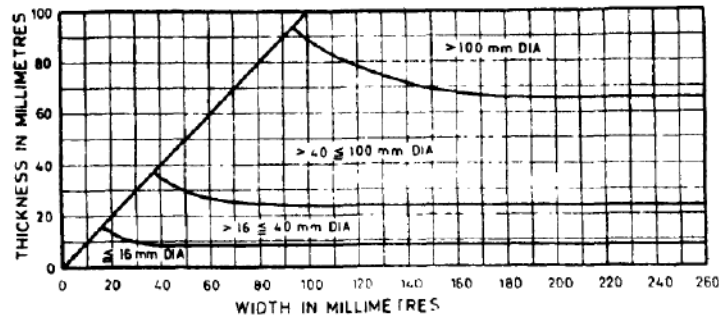


FIG. 2 APPLICABILITY OF THE FIGURES GIVEN IN THE TABLE 5 FOR ROUND SECTION, TO RECTANGULAR SECTION OF OIL OR WATER-QUENCHED PRODUCTS

## 14 SAMPLING

### 14.1 Sample for Chemical Analysis

The ladle analysis shall be supplied by the manufacturer. If the product analysis is required by the purchaser at least one sample product shall be taken from each cast.

### 14.2 Sampling for Hardness in the Normalized or Annealed Condition

14.2.1 One sample product shall be taken from each heat treatment batch for the determination of hardness.

### 14.3 Sampling for Mechanical Properties

14.3.1 Test pieces for mechanical tests shall be taken in the longitudinal direction of the product in accordance with Fig. 1.

14.4 One sample per cast shall be taken for determination of grain size according to IS 4748 : 1988

14.5 The samples for inclusion rating shall be drawn according to IS 4163 : 1982.

## 15 RETEST

### 15.1 Retest for Product Analysis

If the results of the product analysis do not meet the composition requirements given in Tables 2 and 3, unless otherwise agreed to between the purchaser and the manufacturer, two new samples shall be taken on different pieces from the same cast. Should the two analysis satisfy the requirements, the lot represented shall be accepted. Should either of the tests fail, the material shall be taken as not complying with this standard.

### 15.2 Retest for Hardness Test in the Normalized Annealed Condition

If the sample selected under 14.2 fails to meet the requirements under 8, two further samples shall be selected from the same heat treatment batch. The consignment shall be considered to conform to the

requirements if both the additional tests are satisfactory. Should either of the samples fail, the manufacturer shall have the right, if he so desires, to re-heat-treat the product in any suitable manner before two fresh samples are taken for testing. Should the two tests satisfy the requirements of this standard, the lot represented shall be accepted. Should either of the samples fail, the material shall be taken as not complying with this standard.

### 15.3 Retest for Mechanical Tests on Test Pieces

If the sample selected under 14.3 fails to meet the requirements under 9, two further samples shall be selected from the same size grouping for making fresh test bars and tested. The consignment shall be considered to conform to the requirements if both the additional tests are satisfactory. Should either of the test pieces fail, the manufacturer shall have the right, if he so desires to re-heat-treat the lot in any suitable manner before two fresh samples are taken for testing. Should the two tests satisfy the requirements of this standard, the lot represented shall be accepted. Should either of the samples fail, the material shall be taken as not complying with this standard.

## 16 ADDITIONAL TESTS

16.1 If agreed to between the purchaser and the manufacturer at the time of enquiry and order, any or a combination of the following tests may also be carried out to ensure that the steels meet the quality requirements of the purchaser.

- Macro Etch Test in accordance with IS 11371 : 1985,
- Ultrasonic Test in accordance with IS 3664 : 1981,
- Hardenability Test in accordance with IS 3848 : 1981 and values as per Table 7,
- Blank Hardening Test for core strength guarantee as per recommendations of Table 5,
- Cleanliness Test as per IS 10138 (Parts 1 to 3) : 1982,

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- f) Microstructure for machinability, including banding, and  
 g) Hot up-set for forgeability.

**16.2** The acceptance level for each or any of these tests shall be mutually agreed to at the time of enquiry and order.

**17 MARKING**

**17.1** All bars of 50 mm dia or equivalent section and above shall be stamped or suitably marked at the end

with heat number and size or trade-mark of the manufacturer. Bars of smaller sections shall be tied in suitable bundles which will carry metal tags giving the information.

**17.2** The bars, billets, etc, shall be suitably colour coded at the ends to mark the grade of the material. The colour scheme followed can be in accordance with IS 2049 : 1978 or as per purchaser's requirement.

**17.3** The material may also be marked with the Standard Mark.

**Table 4 Recommended Hardening and Tempering Temperatures for Direct Hardening Steels**  
 (Clause 7.1)

Designation	Hot Working Temperature	Normalizing Temperature	Hardening Temperature	Quenching Medium	Tempering Temperature
(1)	(2)	(3)	(4)	(5)	(6)
	°C	°C	°C		°C
30C8	1 200 to 850	860 to 890	860 to 890	Water or Oil	550 to 660
35C8	1 200 to 850	850 to 880	840 to 880	Water or Oil	530 to 660
40C8	1 200 to 850	830 to 860	830 to 860	Water or Oil	550 to 660
45C8	1 200 to 850	830 to 860	830 to 860	Water or Oil	530 to 670
50C8	1 150 to 850	810 to 840	810 to 860	Oil	530 to 660
55C8	1 150 to 850	810 to 840	810 to 840	Oil	550 to 660
40C10S18	1 200 to 850	830 to 860	830 to 860	Oil	550 to 660
40C15S12	1 200 to 850	840 to 870	840 to 870	Oil	550 to 660
20C15	1 200 to 850	860 to 900	860 to 900	Water or Oil	550 to 660
27C15	1 200 to 850	840 to 880	840 to 880	Water or Oil	550 to 660
37C15	1 200 to 850	850 to 870	850 to 870	Water or Oil	550 to 660
35Mn6Mo3	1 200 to 900	—	840 to 860	Water or Oil	550 to 660
35Mn6Mo4	1 200 to 900	—	840 to 860	Oil	550 to 660
37Mn5Si5	1 050 to 850	860 to 890	830 to 850	Water or Oil	530 to 670
55Cr3	1 200 to 850	800 to 850	800 to 850	Oil	500 to 700
55Si6Cr3	1 050 to 850	850 to 880	830 to 860	Oil	430 to 500
40Cr4	1 200 to 850	850 to 880	850 to 880	Oil	550 to 700
42Cr4Mo2	1 200 to 850	850 to 880	850 to 880	Oil	500 to 720
15Cr13Mo6	1 200 to 850	—	890 to 910	Oil	550 to 700 <sup>1)</sup>
25Cr13Mo6	1 200 to 850	—	890 to 910	Oil	550 to 700 <sup>1)</sup>
42CrV6	1 100 to 850	850 to 880	830 to 860	Oil	480 to 650
45CrSi9	1 100 to 900	—	1 020 to 1 070	Oil	770 to 820
46V1S3	1 200 to 850	—	—	Oil	—
50Cr4V2	1 050 to 850	840 to 880	830 to 860	Oil	540 to 680
58Cr4V1	1 050 to 850	850 to 880	820 to 850	Oil	480 to 650
40Cr13Mo10V2	1 200 to 850	—	900 to 940	Oil	570 to 650
40Cr7A110Mo2	1 200 to 850	—	850 to 900	Oil	550 to 700

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Table 4 (concluded)

Designation	Hot Working Temperature	Normalizing Temperature	Hardening Temperature	Quenching Medium	Tempering Temperature
(1)	(2)	(3)	(4)	(5)	(6)
	°C	°C	°C		°C
40Ni14	1 200 to 850	830 to 860	850 to 860	Oil	550 to 650
35Ni3Cr2	1 200 to 850	—	820 to 850	Water or Oil	550 to 660
30Ni13Cr5	1 200 to 850	—	810 to 830	Air or Oil	250
40Ni6Cr4Mo2	1 200 to 850	—	830 to 850	Oil	550 to 660
40Ni6Cr4Mo3	1 200 to 900	—	830 to 850	Oil	550 to 660 or 150 to 200 (Depending on hardness required)
31Ni10Cr3Mo6	1 200 to 850	—	830 to 850	Oil	Up to 660
40Ni10Cr3Mo6	1 200 to 850	830 to 850	830 to 850	Oil	Up to 660

<sup>1)</sup> Stabilization temperature 550°C.

Table 5 Mechanical Properties of Steels in the Hardened and Tempered Condition  
 (Clauses 7.2, 9.1, 9.3 and 9.4)

Steel Designation	Tensile Strength MPa	0.2 Percent Proof Stress MPa, Min	Elongation 5.65/A Percent, Min	Izod Impact Joules, Min	Limiting Ruling Section mm
(1)	(2)	(3)	(4)	(5)	(6)
39C8	600 to 750	400	18	55	30
35C8	600 to 750	400	18	55	63
40C8	600 to 750	380	18	41	63
	700 to 850	480	17	35	30
45C8	600 to 750	380	17	41	100
	700 to 850	480	15	35	30
50C8	700 to 850	460	15	—	63
	800 to 950	540	13	—	30
55C8	700 to 850	460	15	—	63
	800 to 950	540	13	—	30
40C10S18	600 to 750	380	18	41	60
	700 to 850	480	17	48	30
40C15S12	700 to 850	500	18	35	60
20C15	600 to 750	440	18	48	30
	700 to 850	500	16	48	15
27C15	600 to 750	440	18	48	63
	700 to 850	500	16	48	30
37C15	600 to 750	440	18	48	100
	700 to 850	540	18	48	63
	800 to 950	600	16	48	30
	900 to 1 050	700	15	41	15
35Mn6Mo3	700 to 850	540	18	55	150
	800 to 950	600	16	55	100
	900 to 1 050	700	15	55	63
	1 000 to 1 150	800	13	48	30
37Mn5Si5	800 to 950	550	14	34	100
	900 to 1050	650	12	27	40
	1000 to 1200	800	11	21	16



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Table 5 (continued)

Steel Designation	Tensile Strength MPa	0.2 Percent Proof Stress MPa, Min	Elongation 5.65/A Percent, Min	Izod Impact Joules, Min	Limiting Ruling Section mm
(1)	(2)	(3)	(4)	(5)	(6)
55Cr4V2	780 to 980	590	13	34	250
	900 to 1 080	690	12	34	100
	980 to 1180	780	10	34	40
58Cr4V1	1 080 to 1 270	880	9	34	16
	980 to 1 180	735	12	41	250
	1 080 to 1 270	885	10	34	100
	1 180 to 1 370	980	8	27	40
42CrV6	1 320 to 1 570	1080	7	21	16
	740 to 880	540	14	55	160
	880 to 1 030	685	12	48	100
	980 to 1 180	785	11	41	40
45CrS9	1 080 to 1 270	885	12	34	16
	880 to 1 030	685	10	—	—
35Mn6Mo4	800 to 950	600	16	55	150
	900 to 1 050	700	16	55	100
	1 000 to 1 150	800	15	48	63
55Cr3	900 to 1050	660	12	35	63
	1 000 to 1 150	740	10	17	63
55Ni6Cr3	1 400 to 1 600	1200	6	—	16
	700 to 850	540	18	55	100
40Cr4	800 to 950	600	16	55	63
	900 to 1 050	700	15	55	30
	700 to 850	540	13	55	150
	800 to 950	550	12	50	100
42Cr4Mo2	900 to 1 050	650	11	50	63
	1 000 to 1 150	750	10	48	30
	700 to 850	540	18	55	150
15Cr13Mo6	800 to 950	600	16	55	150
	900 to 1 050	700	15	55	150
25Cr15Mo6	1 000 to 1 150	800	13	48	150
	1 100 to 1 250	880	12	41	100
	1 500 Min	1300	8	14	63
40Cr13Mo10V2	1 350 Min	1120	8	21	63
	1 550 Min	1300	8	14	30
40Cr7A110Mo2	700 to 850	540	18	55	150
	800 to 950	600	16	55	100
	900 to 1050	700	15	48	63
40Ni14	800 to 950	600	16	55	100
	900 to 1050	700	15	55	63
35Ni5Cr2	700 to 850	540	18	55	150
	800 to 950	600	16	55	100
30Ni13Cr5	1 550 Min	1300	8	14	63
( air-hardened )					
150					
( oil-hardened )					
40Ni6Cr4Mo2	800 to 950	600	16	55	150
	900 to 1 050	700	15	55	100
	1 000 to 1 150	800	13	48	63
	1 100 to 1 250	880	11	41	30
40Ni6Cr4Mo3	800 to 950	600	16	55	150
	900 to 1 050	700	15	55	150
	1 000 to 1 150	800	13	48	100
	1 100 to 1 250	880	11	41	63
30Ni10Cr3Mo6	1 200 to 1 250	1000	10	30	30
	1 500 Min	1300	6	11	30
	900 to 1 050	700	15	55	150
	1 000 to 1 150	800	12	48	150
	1 100 to 1 250	880	11	41	100
	1 200 to 1 350	1000	10	35	63
	1 550 Min	1300	8	14	63

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Table 5 (concluded)

Steel Designation	Tensile Strength MPa	0.2 Percent Proof Stress MPa, Min	Elongation 5.65/A Percent, Min	Izod Impact Joules, Min	Limiting Rolling Section mm
(1)	(2)	(3)	(4)	(5)	(6)
30Ni10Cr3Mo6	900 to 1 050	700	15	55	150
	1 000 to 1 150	800	12	48	150
	1 100 to 1 250	880	11	41	100
	1 200 to 1 350	1000	10	35	63
	1 550 Min	1300	8	14	63
40Ni10Cr3Mo6	1 000 to 1 150	800	12	48	150
	1 100 to 1 250	880	11	41	150
	1 200 to 1 350	1000	10	35	150
	1 550 Min	1300	8	14	100

NOTES

1 Mechanical properties for steels having a minimum tensile strength of 1 340 MPa and above are given for information only and the delivery condition on the basis of the chemical composition and hardenability shall be applicable in such cases.

2 Izod impact values are for fine grained steels.

1 Kgf/mm<sup>2</sup> = 9.81 N/mm<sup>2</sup>.

Table 6 Hardness Requirement for Products Delivered in as Rolled Condition ( R ), Annealed ( A )  
 or Improved Machinability ( M )  
 (Clause 8.1)

Steel Grade	As Annealed ( A ),	As Rolled ( R ),	Treated for Improved Machinability ( M ),
	Max HB	Min HB	Max HB
30C8	187	240	170
35C8	197	240	183
40C8	207	240	197
45C8	207	240	207
50C8	210	240	217
55C8	220	250	229
40C10Si8	200	240	—
40C15Si12	200	240	—
20C15	200	240	220
27C15	200	240	223
37C15	220	250	229
35Mn6Mo3	220	250	—
35Mn6Mo4	220	250	—
37Mn5Si5	220	250	220
42CrV6	220	250	—
45CrSi9	240	250	—
46V1S3	220	250	—
50Cr4V2	250	As per agreement	—
58CrV1	250	As per agreement	—
55Cr3	220	25 Max	—
55Si6Cr3	220	250	220
40Cr4	241	250	241
42Cr4Mo2	241	250	241
15Cr13Mo6	200	240	—
25Cr13Mo6	230	As per agreement	—
40Cr13Mo10V2	230	As per agreement	—
40Cr7Al10Mo2	230	As per agreement	—
40Ni14	229	250 Max	—
35Ni5Cr2	229	250	—
30Ni13Cr2	250	As per agreement	—
40Ni16Cr4Mo2	241	250	—
40Ni16Cr4Mo3	241	As per agreement	—
31Ni10Cr3Mo6	269	As per agreement	—
40Ni10Cr3Mo6	269	As per agreement	—

NOTE — For improved machinability the microstructure of the steel may be mutually agreed to between the manufacturer and the purchaser.

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**Table 7 Povisional Limiting Rockwell Hardness for End Quench Test**  
*(Clause 12.1)*

Steel Grade	Limits of Spread	Hardness HRC at a Distance from End Quench Face in mm														
		1.5	3	5	7	9	11	13	15	20	25	30	35	40	45	50
27Cr15	Maximum	55	54	51	48	42	39	37	33	31	29	28	27	27	26	
	Minimum	43	40	32	24	20	—	—	—	—	—	—	—	—	—	—
40Cr4	Maximum	61	61	60	59	58	56	54	52	46	42	40	38	37	36	35
	Minimum	53	52	50	47	44	40	37	35	30	27	25	23	22	21	20
42Cr4Mo2	Maximum	61	61	61	60	60	59	59	58	56	53	51	48	47	46	45
	Minimum	53	53	52	51	50	48	45	43	38	35	34	33	32	32	32
50Cr4Mo2	Maximum	65	65	64	64	63	63	62	61	60	58	56	55	54	53	53
	Minimum	57	56	56	55	53	52	50	48	44	41	40	39	38	37	37

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**Amendments Issued Since Publication**

Amend No.	Date of Issue	Text Affected

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**Telephone**

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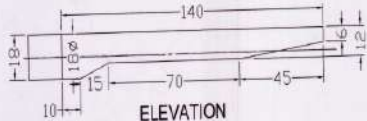

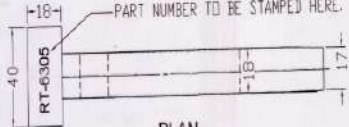
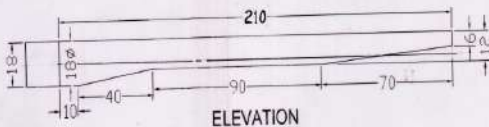

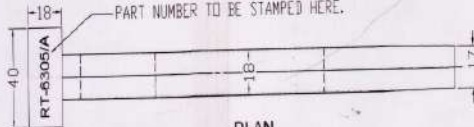
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 <p>ELEVATION</p>		 <p>SIDE ELEVATION</p>	
 <p>PLAN</p>			
 <p>ELEVATION</p>		 <p>SIDE ELEVATION</p>	
 <p>PLAN</p>			
<p>2 LATEST ALTERATION NUMBER SHALL BE CHECKED BEFORE PLACING ORDER. 1. ALL DIMENSIONS ARE IN MILLIMETRES.</p>			
NOTE		SPECIFICATION	
		SCALE	
		ALT.	
		DESCRIPTION	
		DATE	

15-5517 1993  
6r-42 Cr-MN02  
HARDENED & TEMPERED

10 10 10 10 10

10 10 10 10 10

8400mm CURVED SWITCH FOR  
1 IN 8.5 TURNOUT WITH ZU-1-60 RDSO/T-  
4 THICK-WEB TONGUE RAILS B.G. 160  
2 (1673mm) ON PSC SLEEPERS.

No.	DESCRIPTION	No.
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R. D. S. O.

WEDGE FOR SLIDE CHAIRS FOR  
8400mm CURVED SWITCH WITH  
ZU-1-60 THICK-WEB TONGUE RAILS  
B.G. (1673mm) FOR 60 kg (JIG) ON  
PSC SLEEPERS.

TYPE: ADVANCE  
REV: 24.62.04 (T)

RDSO/T-6305 & RDSO/T-6305/A

SAMBALPUR/DIV/ECOR  
TENDER DOCUMENT

Tender No: 40255942

Closing Date/Time: 08/09/2025 15:00

Sr.DMM acting for and on behalf of The President of India invites E-Tenders against Tender No **40255942** Closing Date/Time 08/09/2025 15:00 Hrs. Bidders will be able to submit their original/revised bids upto closing date and time only. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored.

1. NIT HEADER

Bidding type	Normal Tender	Template	Normal
Contract type	Goods	Contract Category	Expenditure
Tender No	40255942	Tender Type	Open - Indigenous
Evaluation Criteria	Itemwise/Consigneewise	Bidding System	Single Packet
Pre-Bid Conference Required	No	Pre-Bid Conference Date Time	Not Applicable
Tendering Section	40		
Inspection Agency	TPI Agency	Publishing Date / Time	14/08/2025 19:18
Item Category	General	Bidding to be Done on	IREPS
Procure From Approved Sources	No	Approving Agency	Not Applicable
Closing Date Time	08/09/2025 15:00		
Validity of Offer ( Days)	90	Ranking Order for Bids	Lowest to Highest
Tender Doc. Cost (INR)	0.00	Earnest Money (INR)	132430.00
Tender Title	Wedge T-6305/A for Thick web switch.		

2. ITEM DETAILS

S.No.	PL Code (Group)	Item Type GST(Y/N)	Stock / NonStock	Ordering	Consider For Eval	Approving Agency	Inspection Agency	Currency Allowed	Estimated Rate
1	842100011040	Goods (Y)	Non Stock	---	Yes		TPI Agency	INR	
	Description :Wedge T-6305/A for Thick web switch. [ <b>Warranty Period:</b> 30 Months after the date of delivery ] ]								
Consignee		SE/P.WAYSTORES/SAMBALPUR., ECOR			Odisha		5000.00 Numbers		
Inspection Details		Stage Inspection Not Required							
2	842100011050	Goods (Y)	Non Stock	---	Yes		TPI Agency	INR	
	Description :Wedge T-6305/A for Thick web switch. [ <b>Warranty Period:</b> 30 Months after the date of delivery ] ]								
Consignee		SE/P.WAYSTORES/SAMBALPUR., ECOR			Odisha		20000.00 Numbers		
Inspection Details		Stage Inspection Not Required							
3	842100011060	Goods (Y)	Non Stock	---	Yes		TPI Agency	INR	
	Description :Wedge T-6305/A for Thick web switch. [ <b>Warranty Period:</b> 30 Months after the date of delivery ] ]								
Consignee		SE/P.WAYSTORES/SAMBALPUR., ECOR			Odisha		8000.00 Numbers		
Inspection Details		Stage Inspection Not Required							
4	842100011070	Goods (Y)	Non Stock	---	Yes		TPI Agency	INR	
	Description :Wedge T-6305/A for Thick web switch. [ <b>Warranty Period:</b> 30 Months after the date of delivery ] ]								
Consignee		SE/P.WAYSTORES/SAMBALPUR., ECOR			Odisha		10000.00 Numbers		
Inspection Details		Stage Inspection Not Required							

3. T AND C

F.O.R

Description
-------------

**SAMBALPUR/DIV/ECOR  
TENDER DOCUMENT**

**Tender No:** 40255942

**Closing Date/Time:** 08/09/2025 15:00

Destination
-------------

**Delivery Period**

Description	Delivery /Completion	Rate of Supply
For all items	<b>Completion</b> : Within 60 Days	---

**Payment Terms**

S.No	Description
<b>Payment Terms</b>	
1	100% payment against receipt and acceptance of the material by consignee.

**Statutory Variation Clause**

S.No	Description
1	Statutory Variation in taxes and duties, or fresh imposition of taxes and duties by State/ Central Governments in respect of the items stipulated in the contract (and not the raw materials thereof), within the original delivery period stipulated in the contract, or last unconditionally extended delivery period shall be to Railways' account. Only such variation shall be admissible which takes place after the submission of bid. No claim on account of statutory variation in respect of existing tax/duty will be accepted unless the tenderer has clearly indicated in his offer the rate of tax/duty considered in his quoted rate. No claim on account of statutory variation shall be admissible on account of misclassification by the supplier/contractor. SVC ( Statutory Variation Clause) will be applicable within the validity of the Contract as per Clause No 3 of General Conditions of Tender in ECoR Tender Conditions uploaded in website as well as attached with this tender.

**Standard Governing Conditions**

S.No	Description
1	The contract shall be governed by latest version (along with all correction slips) of IRS conditions of contract & General Conditions of Contract, ECoR tender terms and conditions uploaded in the IREPS website, Special conditions mentioned in the tender schedule, Attachments in the tender schedule, if any, and Corrigendum published, if any.

**4. ELIGIBILITY CONDITIONS**

**Special Eligibility Criteria**

S.No.	Description	Template	Condition Applicability	Confirmation Required	Remarks Allowed	Documents Uploading
1	Firms quoting shorter validity period of offers and will be considered as unresponsiveness and quoting abnormally longer delivery period may be passed over.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed
2	Railway reserves the right to procure the Tendered item from the manufacturer (based on the status of MSE/NSIC/UDYAM etc or any other valid statutory document) or their authorized dealers/agents. The authorized dealer/Agent should submit tender specific authorisation from the OEM/Manufacturer along with the bid.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed

**SAMBALPUR/DIV/ECOR  
TENDER DOCUMENT**

**Tender No:** 40255942

**Closing Date/Time:** 08/09/2025 15:00

3	The bidder should submit the satisfactory past performance credentials of supplying same/Similar item (Similar means goods/items of relevant category) to any zonal railways /production units etc within last 05 (five) Financial Year and current Financial Year up to the date of tender opening. Only such offers shall be eligible for placement of order. The bidder should submit documentary proof i.e R-Note, Inspection certificate along with Supplied PO,CRN/CRAC of GeM Contract etc in support of their claim of credentials /past performance along with offer. If the bidder submits only the PO copies, then railway reserves the right to verify the performance against such P.O from the IMMS database. Only if satisfactory performance is found against such completed P.O then only the performance shall be considered as eligible.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed
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**5. COMPLIANCE CONDITIONS**

**Check List**

S.No.	Description	Template	Condition Applicability	Confirmation Required	Remarks Allowed	Documents Uploading
1	The bidder should go through the Tender Documents consisting of Instructions to Tenderers, General Tender Conditions and Special Conditions of Tender, and agree &confirm to abide by the Instructions to tenders, General Tender Conditions, IRSconditions of Contract and Special Conditions of Tender.	Normal	Applicable to all bidders	No	No	Not Allowed
2	The bidder should agree to supply the tendered stores at the rates quoted by him inaccordance with the IRS conditions of Contract and [or] Special Conditions and [or]other Conditions specified/attached with the tender.	Normal	Applicable to all bidders	No	No	Not Allowed
3	Have you gone through the Clause No 6.0 for deposit of Earnest Money as indicatedin Instructions to Tenderers and 13.0 for Security Deposit (SD) as indicated in GeneralConditions of Tender in ECoR Tender conditions uploaded in IREPS website as wellas attached with this tender.	Normal	Applicable to all bidders	No	No	Not Allowed
4	Tenderer's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the tender document Corrigendum if any.	Normal	Applicable to all bidders	No	No	Not Allowed

**Commercial-Compliance**

S.No.	Description	Template	Condition Applicability	Confirmation Required	Remarks Allowed	Documents Uploading
1	FOR Destination door delivery basis. No other FOR condition will be applicable.	Normal	Applicable to all bidders	Yes	Yes	Allowed (Optional)
2	Warranty as per IRS Conditions of contract.	Normal	Applicable to all bidders	Yes	Yes	Allowed (Optional)
3	All the bidders/tenderers should insure that they are GST complaint and their quoted tax structure/rates as per GST Law and HSN Code	Normal	Applicable to all bidders	Yes	Yes	Allowed (Optional)



**SAMBALPUR/DIV/ECOR  
TENDER DOCUMENT**

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4	Tenderers/Bidder should go through the 'Revised Tender Document dated. 23.12.2020' available in the IREPS website before submitting their offer especially the clauses 4.0, 5.0 of the instructions to the Tenderers pertaining to EMD and SD. Please note that as per latest guidelines. Non compliance of EMD and SD clause may lead to non consideration of the offers of the firms who are not exempted as specified in the above clauses.	Normal	Applicable to all bidders	No	No	Not Allowed
5	Validity of the offer to be 90 days.	Normal	Applicable to all bidders	Yes	Yes	Allowed (Optional)
6	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	Normal	Applicable to all bidders	No	Yes	Allowed (Optional)

**Other Conditions**

S.No.	Description	Template	Condition Applicability	Confirmation Required	Remarks Allowed	Documents Uploading
1	Inspection by TPI Agency.	Normal	Applicable to all bidders	No	No	Not Allowed
2	Documents to be submitted with materials(1)OEM/Manufacturers Test/Inspection Certificate.(2)Suppliers warranty Certificate.(3)Certificate issued by the local agent/Dealer stating that the materials were procured by them from OEM for supplying against this Railway PO.(4)Delivery Chalan(3 Copies)-Optional. (5)GST Invoice(3 Copies)	Normal	Applicable to all bidders	No	No	Not Allowed
3	All other Terms and Conditions as per tender conditions of East Coast Railway Stores Department.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed
4	(I) All the Bidders/tenderers should ensure that they are GST compliant and their quoted tax structure/rates are as per GST Law. (ii) In case the successful tenderer is not liable to be registered under CGST/IGST/SGST/UTGST Act, the Railway shall deduct the applicable GST from his /their bills under reverse charge mechanism and deposit the same to the concerned tax authority. (iii) The offers shall be evaluated based on the GST rate as quoted by each bidder and the same will be used for determining the inter se ranking. While submitting offer, it shall be the responsibility of the bidder to ensure that they quote correct GST rate and HSN number. (iv) Purchaser shall not be responsible for any misclassification of HSN number or incorrect GST rate if quoted by the bidder. (v) Wherever the successful bidder invoices the goods at GST rate or HSN number which is different from that incorporated in the Purchase Order, payment shall be made as per GST rate which is lower of the GST rate incorporated in the Purchase Order or billed. (vi) Any amendment to GST rate or HSN number in the contract shall be as per the contractual conditions and statutory amendments in the quoted GST rate and HSN number, under SVC.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed

**SAMBALPUR/DIV/ECOR  
TENDER DOCUMENT**

**Tender No:** 40255942

**Closing Date/Time:** 08/09/2025 15:00

5	EMD Clause : EMD will be applicable as per Clause NO 6.0 of Instructions to Tenderers for e-tender of East Coast Railway available in IREPS . Vendors who are not exempt from paying the EMD must submit the EMD along with their BID as per the tender document failing which their offer will be summarily rejected without any backreference. All Vendors, exempted from submitting EMD, irrespective of type of tender, i.e. single, Limited or Open, shall be required to sign a bid securing declaration IREPS at the time of bidding, failing which their offer will be rejected.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed
6	SD-Security Deposit shall be 5 percent of total value of the contract and shall be taken from all vendors for contract value above Rs.25 lakh subject to the applicable exemption. Tenderers/Bidders should go through the conditions for Tender Document w.e.f. 23.12.2020 available in IREPS website before submitting their offer especially the Clause 13.0 of General Conditions of Tender of Section-II for Security Deposit(SD) & latest Railway Board letter No 2020/RS(G)/779/16 dated 27.11.2020. Please note that as per latest guidelines, non compliance of EMD and SD clause may lead to non consideration of offers of the firms who are not exempted as specified in the above clauses.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed
7	Micro & Small Enterprises should specifically mention about their being MSEs and submit documentary evidence in support of the same. If you are not a MSE or a consortia of MSEs formed by NSI, please indicate percentage of sub contracts in execution of this tender that will be from Micro and Small Enterprises (information will be in % terms with 6 fields; Micro owned by SC, Micro owned by ST, Micro owned by Others, Small industry owned by SC, Small industry owned by ST, Small industry owned by others).	Normal	Applicable to all bidders	Yes	Yes	Not Allowed
8	The ranking will be as per auto generated financial tabulation statement through IREPS only.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed
9	The bidder should upload the Performance Statement supported by copies of Purchase Orders, Receipt Notes and Inspection Certificates as the case may be.	Normal	Applicable to all bidders	Yes	Yes	Not Allowed

**6. Bidders shall confirm and certify on the behalf of the tenderer including its constituents as under:**

S.No.	Description
1	I/we the tenderer (s) am/are signing this document after carefully reading the contents.
2	I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3	I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of contract or payment, the master copy available with the railway Administration shall be final and binding upon me/us.
4	I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5	I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.
6	I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.

**SAMBALPUR/DIV/ECOR  
TENDER DOCUMENT**

**Tender No:** 40255942

**Closing Date/Time:** 08/09/2025 15:00

7	I/we certify that I/we the tenderer(s) is/are not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/ member of the partnership firm/LLP/JV/Society/Trust.
8	I/we understand that if the contents of the certificate submitted by us are found to be forged/false at any time during process for evaluation of tenders, it shall lead to forfeiture of the EMD and may also lead to any other action provided in the contract including banning of business for a period of upto two year. Further, I/we and all my/our constituents understand that my/our offer shall be summarily rejected.
9	I/we also understand that if the contents of the certificate submitted by us are found to be false/forged at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of Security Deposit and may also lead to any other action provided in the contract including banning of business for a period of upto two year.
10	I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or, if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfil all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed)

**7. DOCUMENTS ATTACHED WITH TENDER**

S.No.	Document Name	Document Description
1	4784585.pdf	IRS Conditions of Contract 2022
2	4784582.pdf	ECor Revised Tender Conditions

The tenderers in their bid shall indicate the details of their GST Jurisdictional Assessing Officers (Designation, Address & email id). In case of a contract award, a copy of Purchase Order shall be immediately forwarded by Purchaser to the GST Jurisdictional assessing officer mentioned in Tenderer's bid

This tender complies with Public Procurement Policy (Make in India) Order 2017, dated 15/06/2017, issued by Department of Industrial Promotion and Policy, Ministry of Commerce, circulated vide Railway Board letter no. 2015/RS(G)/779/5 dated 03/08/2017 and 27/12/2017 and amendments/ revisions thereof.

As a Tender Inviting Authority, the undersigned has ensured that the issue of this tender does not violate provisions of GFR regarding procurement through GeM.

**Digitally Signed By**

Sr.DMM ( MAHENDRA PAL SINGH )

EAST COAST RAILWAY								
P.O.No.: 40255942100771 dated 22-OCT-25 PURCHASE ORDER (NON-STOCK)								
To, BHAWANI SALES AGENCIES-HOWRAH 56 KALI PROSAD BANERJEE LANE KADAMTALA, HOWRAH, West Bengal, India, 711101 ( vcode::32209 ) ( Industry type : MSE ) Ph.: 03326435890,919830321222 Email: bhawani.karar@gmail.com			From, Office of the Sr Divisional Materials Manager DRM Building, PO- Modipara, Sambalpur 768002 Ph.:06632521176 Website: <a href="https://www.ireps.gov.in/">https://www.ireps.gov.in/</a>					
This is an auto-generated Purchase Order based on online tender decision.and no vetting is needed being a tender committee case.								
With reference to your Bid Id No.18908279 dated 01/09/25 against this office Tender No.40255942 opened on 08/09/25, please deliver to the Consignee(s) mentioned below, the under mentioned articles free of incidental charges subject to Indian Railways Standard Conditions of Contract (Latest Edition) and General Conditions of Contract for the Stores Department of this Railway and to the addendum to the same subject applicable to this Contract.								
Total Order Value: <b>Rs.54,79,920.00</b> (Rupees Fifty-Four Lakh Seventy-Nine Thousand Nine Hundred Twenty only)								
<b>SVC</b> :APPLICABLE, <b>PVC</b> :NOT APPLICABLE, <b>Safety</b> : YES, <b>Option Clause</b> : NOT APPLICABLE, <b>Time Preference</b> : NOT APPLICABLE, <b>Item Category</b> : General								
<b>PL No :</b> 842100011040		<b>Item Qty :</b> 5000 Nos.			<b>Inspection agency :</b> Third Party Agency ( INTERTEK INDIA PRIVATE LIMITED-NEW DELHI )			
<b>Description :</b> Wedge T-6305/A for Thick web switch. Accepted Make:SELF. ( <b>Warranty Period</b> : Upto 30 months from the date of delivery.)								
<b>Quantity tolerance</b> : Not Permissible								
<b>Basic Rate:</b> Rs. 108.00 (Rupees One Hundred Eight only)								
Consignee		PO Sr.	DELIVERY SCHEDULE			S.Tax/VAT	Freight Charges	Other Charges II
			Commence	Complete	Ordered Qty.			
SE/P.WAYSTORES/SAMBALPUR		PUR. 001		21/12/25	5,000.000	GST @ 18 %	--	--
<b>PL No :</b> 842100011050		<b>Item Qty :</b> 20000 Nos.			<b>Inspection agency :</b> Third Party Agency ( INTERTEK INDIA PRIVATE LIMITED-NEW DELHI )			
<b>Description :</b> Wedge T-6305/A for Thick web switch. Accepted Make:SELF. ( <b>Warranty Period</b> : Upto 30 months from the date of delivery.)								
<b>Quantity tolerance</b> : Not Permissible								
<b>Basic Rate:</b> Rs. 108.00 (Rupees One Hundred Eight only)								
Consignee		PO Sr.	DELIVERY SCHEDULE			S.Tax/VAT	Freight Charges	Other Charges II
			Commence	Complete	Ordered Qty.			
<div>Digitally Signed by MAHENDRA PAL SINGH, Sr DMM/SBP srdmmsbp20@gmail.com for Sr.DMM/ECOR/SBP for and on behalf of the President of India</div> <div>[PO.Key: 6502535; ;Autogenerated PO(non- editable)]</div>								

EAST COAST RAILWAY									
P.O.No.: 40255942100771 dated 22-OCT-25 PURCHASE ORDER (NON-STOCK)									
SE/P.WAYSTORES/SAMBALPUR		PUR. 002		21/12/25	20,000.000	GST @ 18 %	--	--	
PL No : 842100011060		Item Qty : 8000 Nos.			Inspection agency : Third Party Agency ( INTERTEK INDIA PRIVATE LIMITED-NEW DELHI )				
Description : Wedge T-6305/A for Thick web switch. Accepted Make:SELF. (Warranty Period : Upto 30 months from the date of delivery.)									
Quantity tolerance : Not Permissible									
Basic Rate: Rs. 108.00 (Rupees One Hundred Eight only)									
Consignee		PO Sr.	DELIVERY SCHEDULE			S.Tax/VAT	Freight Charges	Other Charges II	
			Commence	Complete	Ordered Qty.				
SE/P.WAYSTORES/SAMBALPUR		PUR. 003		21/12/25	8,000.000	GST @ 18 %	--	--	
PL No : 842100011070		Item Qty : 10000 Nos.			Inspection agency : Third Party Agency ( INTERTEK INDIA PRIVATE LIMITED-NEW DELHI )				
Description : Wedge T-6305/A for Thick web switch. Accepted Make:SELF. (Warranty Period : Upto 30 months from the date of delivery.)									
Quantity tolerance : Not Permissible									
Basic Rate: Rs. 108.00 (Rupees One Hundred Eight only)									
Consignee		PO Sr.	DELIVERY SCHEDULE			S.Tax/VAT	Freight Charges	Other Charges II	
			Commence	Complete	Ordered Qty.				
SE/P.WAYSTORES/SAMBALPUR		PUR. 004		21/12/25	10,000.000	GST @ 18 %	--	--	
Other Terms and Conditions									
1 FOR Destination									
2 Mode of Despatch - By Road on door delivery basis up to destination.									
3 Payment Terms 100% payment against receipt and acceptance of the material by consignee.									
4 Security Money The contractor has to submit 5% of total order value as the security deposit in the form of ePBG/FDR/DD in favour of FA AND CAO ECOR BBS payable at Sambalpur within 21 days of the release of the purchase order as per the tender conditions. The finance should not pass the bill unless the firm deposit SD.									
5 Standard Governing Conditions IRS Conditions of Contract: The contract shall be governed by latest version (along with all correction slips) of IRS conditions of contract, and all other terms and conditions incorporated in the tender documents.									
Digitally Signed by MAHENDRA PAL SINGH, Sr DMM/SBP srdmmsbp20@gmail.com for Sr.DMM/ECOR/SBP for and on behalf of the President of India									
[PO.Key: 6502535; ;Autogenerated PO(non-editable)]									

EAST COAST RAILWAY	
P.O.No.: 40255942100771 dated 22-OCT-25 PURCHASE ORDER (NON-STOCK)	
6	Statutory Variation Clause Statutory Variation in taxes and duties, or fresh imposition of taxes and duties by State/ Central Governments in respect of the items stipulated in the contract (and not the raw materials thereof), within the original delivery period stipulated in the contract, or last unconditionally extended delivery period shall be to Railways' account. Only such variation shall be admissible which takes place after the submission of bid. No claim on account of statutory variation in respect of existing tax/duty will be accepted unless the tenderer has clearly indicated in his offer the rate of tax/duty considered in his quoted rate. No claim on account of statutory variation shall be admissible on account of misclassification by the supplier/ contractor.
7	Warranty Clause 30 Months from the date of delivery.
8	Other T & C - Freight, insurance and transit risk up to destination to be borne by the firm.
9	Inspection Place -at Factory premissis LAKSHMANPUR, DOMJUR, HOWRAH-711114
10	Option Clause Railway reserves the right to vary the quantity by plus or minus 30% of the purchase order quantity.
11	Payment Mode: RTGS/NEFT Bank Account No: 051202000004681 IFSC Code: IOBA0000512; Bank Name: Indian Overseas Bank; Bank Address: Kadamtala Branch 177111, Belilious Road, Howrah, West Bengal, India, 711101
12	Instructions to consignee: Non Stock Material should be accounted in UDM and digitally signed Receipted Delivery Challan (if applicable), Receipt Note and RO should be issued through UDM.
13	Instructions to suppliers: a) Payment will be made against e-Bills. Digitally signed e-Bills should be submitted through IREPS for claiming payment against supplies. b) It is advised to generate "e-Dispatch Note" through IREPS while dispatching the materials to consignee. c) Inspection by inspection agency as mentioned in "Inspection Agency" field in the Purchase Order is mandatory. Any other inspection agency mentioned in contradiction to the same, either in the "Inspection clause" condition or in "Other remarks" condition, is to be ignored. Any change in inspection clause shall be carried out through modification in "Inspection Agency" field only through "Modification Advice" to Purchase Order. Any such modification through "Others" field or "Remarks" shall be ignored.
Please acknowledge receipt of this purchase order.	
DEMAND DETAILS	
[PO.Key: 6502535; ;Autogenerated PO(non-editable)]	Digitally Signed by MAHENDRA PAL SINGH, Sr DMM/SBP srdmmsbp20@gmail.com for Sr.DMM/ECOR/SBP for and on behalf of the President of India

EAST COAST RAILWAY					
P.O.No.: 40255942100771 dated 22-OCT-25 PURCHASE ORDER (NON-STOCK)					
PL No.	Consignee Bill Passing Officer	PO Sr.	Demand No. & Date	Allocation	Value
BILL PAYING OFFICER : Sr DFM/ECOR/SBP (A2002) - IPAS AU Code: 3103-ECOR ( PO Cont.No.1046 )					
842100011040	SE/P.WAYSTORES/SAMBALPUR ECOR DEN(East)/SBP	001	ECOR-044089-25-00686 dt. 21/06/25 (UWID:040231243011)	26314204	6,37,200.00
	<b>UWID:</b> 040231243011 <b>Description:</b> Yard Improvement/Upgradation of all yard lines & loop lines in Jharsuguda-Sambalpur-Kerejanga section with TTR GJ and Side drain <b>Accrual Accounting Code:</b> 2631422806 <b>Description:</b> CWIP-Track-Sleeper <b>GST ITC Flag:</b> T3 <b>Description:</b> No ITC (Input goods or services, ITC of which is blocked or restricted)				
842100011050	SE/P.WAYSTORES/SAMBALPUR ECOR DEN(East)/SBP	002	ECOR-044089-25-00686 dt. 21/06/25 (UWID:040231243011)	26314204	25,48,800.00
	<b>UWID:</b> 040231243011 <b>Description:</b> Yard Improvement/Upgradation of all yard lines & loop lines in Jharsuguda-Sambalpur-Kerejanga section with TTR GJ and Side drain <b>Accrual Accounting Code:</b> 2631422806 <b>Description:</b> CWIP-Track-Sleeper <b>GST ITC Flag:</b> T3 <b>Description:</b> No ITC (Input goods or services, ITC of which is blocked or restricted)				
842100011060	SE/P.WAYSTORES/SAMBALPUR ECOR DEN(East)/SBP	003	ECOR-044089-25-00686 dt. 21/06/25 (UWID:040231243011)	26314204	10,19,520.00
	<b>UWID:</b> 040231243011 <b>Description:</b> Yard Improvement/Upgradation of all yard lines & loop lines in Jharsuguda-Sambalpur-Kerejanga section with TTR GJ and Side drain <b>Accrual Accounting Code:</b> 2631422806 <b>Description:</b> CWIP-Track-Sleeper <b>GST ITC Flag:</b> T3 <b>Description:</b> No ITC (Input goods or services, ITC of which is blocked or restricted)				
842100011070	SE/P.WAYSTORES/SAMBALPUR ECOR DEN(East)/SBP	004	ECOR-044089-25-00686 dt. 21/06/25 (UWID:040231243011)	26314204	12,74,400.00
	<b>UWID:</b> 040231243011 <b>Description:</b> Yard Improvement/Upgradation of all yard lines & loop lines in Jharsuguda-Sambalpur-Kerejanga section with TTR GJ and Side drain <b>Accrual Accounting Code:</b> 2631422806 <b>Description:</b> CWIP-Track-Sleeper <b>GST ITC Flag:</b> T3 <b>Description:</b> No ITC (Input goods or services, ITC of which is blocked or restricted)				
TOTAL:				54,79,920.00	
Consignee		Postal Address			Contact Nos.
Digitally Signed by MAHENDRA PAL SINGH, Sr DMM/SBP srdmmsbp20@gmail.com for Sr.DMM/ECOR/SBP for and on behalf of the President of India					
[PO.Key: 6502535; ;Autogenerated PO(non-editable)]					

EAST COAST RAILWAY		
P.O.No.: 40255942100771 dated 22-OCT-25 PURCHASE ORDER (NON-STOCK)		
11 044089 SE/P.WAYSTORES/SAMBA	SE/P.WAYSTORES/SAMBALPUR. PO: KHETRAJPUR,DIST : SAMBALPUR,PIN CODE NO ;768003 ,	8455886215
<div>Digitally Signed by MAHENDRA PAL SINGH, Sr DMM/SBP srdmmsbp20@gmail.com for Sr.DMM/ECOR/SBP for and on behalf of the President of India</div> <div>[PO.Key: 6502535; ;Autogenerated PO(non- editable)]</div>		
<div>Copy to:</div> <div>1. Consignees. 3. Bill Passing Officer 6.GST Jurisdictional Officer: (<b>Designation:</b> Senior Joint Commissioner of Revenue and Charge Off, <b>Address:</b> 7/1 Mackenzie Lane, Howrah - 711 101, HOWRAH, West Bengal, India, 711101, <b>EmailId:</b> jc-kd.ctd-wb@nic.in)</div> <div>2. Inspecting Authority 4. *Bill Paying Officer</div>		



The weight of one wedge as received with the supply of TWS is as under:-

1. TWS wedge T-6305 = 269 gram
2. TWS wedge T-6305A= 369 gram

  
SSE/TSD/GZB

**Note No. #1****Sub: Procurement of “Wedges for slide chair”.**

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May kindly see the following Non-Stock demands for procurement of ‘Wedges for slide chair’ received from Engineering Department which are summarized as under:

S. No.	Demand No. & Date	Item Description	Total Qty. (in Ton)	LAR/ Unit (in ₹)	Total Estimated Value (in ₹)
1	NR-89333-25-00819 dt. 27.08.25 [S. No. 01]	Manufacturing and Supply of Wedge for slide chair for 6400 mm curved switch with Zu-1-60 thick web tongue rails BG (1673 mm) for 60 kg (UIC) on PSC Sleepers as per RDSO drawing No T-6305 (with latest alterations) and confirming to IS Specification IS: 5517-1993 Gr-42 Cr 4M02 (as amended up to date)	5.5	2,00,600/-	11,03,300/-
2	NR-89333-25-00820 dt. 27.08.25 [S. No. 03]	Manufacturing and supply of Wedge for slide chair for Thick Web Switch as per RDSO drawing No T-6305 A (with latest alterations) and confirming to IS Specification IS: 5517-1993 Gr.-42 Cr-4M02 (as amended upto date).	1.5	2,00,600/-	3,00,900/-
<b>Total Value of Proposal</b>					<b>14,04,200/-</b>

In this respect it is to state that this is the first time purchase for this item,

Hence, if agreed, file may be again sent to Engg. Dept. to provide the following details:

- Vetting of Description.
- Latest LPR for the item.
- The RDSO item ID for approved vendor directory if applicable or any other eligibility criteria for the procurement.
- drawing of T-6305 & T-6305A.
- Weight of one no. wedge.

Submitted please.

18/11/2025 5:36 PM

**JOGENDER**  
(JR.CLERK02/P-77/NR/HQ)

**Note No. #2**

18/11/2025 5:37 PM

MOHAN GUPTA  
(DMS03/P-77/HQ/NR)**Note No. #3**

In addition to above , may please provide the following details as well-

- a. Weight of 1 no. of the subject item, for conversion purposes (from MT to Nos.) required at the time of tender decision.
- b. Warranty Details,
- c. PVC formula (if any),
- d. Stage Inspection Details,
- e. Drawing & Copy of Specification,
- f. The details of each Set & list of fittings (if applicable),
- g. Delivery Schedule required

18/11/2025 5:45 PM

PRERNA SETHI  
(DY.CMM/SIG/HQ/NR)**Note No. #4**

Please examine.

19/11/2025 10:51 AM

SUNIL KUMAR  
(DY.CE/TMC/NRHQ)**Note No. #5**

Kindly put up the reply.

19/11/2025 5:27 PM

SUNIL KUMAR CHAUDHARY  
(TSO-II/NRHQ)**Note No. #6**

- Description of Item :-

1. Manufacturing and Supply of Wedge for slide chair for 6400 mm curved switch with Zu-1-60 thick web tongue rails BG (1673 mm) for 60 kg (UIC)

on PSC Sleepers as per RDSO drawing No T-6305 (with latest alterations) and confirming to IS Specification IS: 5517-1993 Gr-42 Cr4Mo2 (Hardened & Tempered) revised up to date.

2. Manufacturing and Supply of Wedge for slide chair for 6400 mm curved switch with Zu-1-60 thick web tongue rails BG (1673 mm) for 60 kg (UIC) on PSC Sleepers as per RDSO drawing No T-6305A (with latest alterations) and confirming to IS Specification IS: 5517-1993 Gr-42 Cr4Mo2 (Hardened & Tempered) revised up to date.

- Latest LPR is attached at [SN-32](#)
- Eligibility Criteria may be taken from E.Co.Rly Tender no. 40255942 ([SN-26](#)) for this item, subject to approval of competent authority.
- Drawing of T-6305 & T-6305A placed at [SN-25](#) and specification is placed at SN-5
- Drawing attached at SN-25 does not specifies any weight for one no. leaf spring however, the approximate weight as informed by TD/GZB and placed at [SN-37](#) is for reference purpose only.
- Warranty Details may be taken as per IRS Conditions.
- PVC not applicable as Small Qty is being procured.
- Stage Inspection is 01 (Final inspection)
- Details of each set:- Not applicable
- Delivery Schedule may be taken as Three months.

May please forward for further action please.

25/11/2025 11:30 AM

SUNIL KUMAR MEENA  
(SSE/DRG/TS)

**Note No. #7**

May kindly process for procurement.

25/11/2025 12:30 PM

SUNIL KUMAR CHAUDHARY  
(TSO-II/NRHQ)

**Note No. #8**

Tender to be issued on priority for both the items.

25/11/2025 1:26 PM

PRERNA SETHI  
(DY.CMM/SIG/HQ/NR)

**Note No. #9**

25/11/2025 3:27 PM

MOHAN GUPTA  
(DMS03/P-77/HQ/NR)