

भारत सरकार Government of India
रेल मंत्रालय Ministry of Railways
रेलवे बोर्ड (Railway Board)

No. 2024/RS(G)/779/12 (E3482675)

Dated: 03.03.2025

The General Managers, All Indian Railways/PUs, NF(C), CORE
DG/RDSO/Lucknow, NAIR/Vadodara,
PCAO, PLW/Patiala, COFMOW
CAO, WPO/Patna, RWP/ Bela.

Sub: Process Inspection of PSC Sleepers (all types)

Ref: Railway Board letter No. 2022/RS(G)/779/8 dated 18.03.2024

The matter of inspection of PSC Sleepers has been deliberated in the Railway Board and the Railway Board has decided that process inspection of PSC Sleepers at the following four (04) Concrete Sleeper Plants (CSPs) shall be conducted by RITES (non-TPI) instead of TPI agency:

- a. Butibori Concrete Sleeper Plant in Nagpur division of Central Railway
- b. Kaipadar Road Sleeper Plant in Khurda Road division of East Coast Railway
- c. Sholaka Concrete Sleeper Plant in Delhi division of Northern Railway
- d. Chola Concrete Sleeper Plant in Prayagraj division of North Central Railway

2. In view of above, inspection by RITES for PSC Sleepers at the above mentioned CSPs will be outside the purview of TPI policy issued by the Railway Board.

3. The inspection of PSC Sleepers by RITES shall be through Process Inspection methodology as laid down in the Railway Board letter No. 2022/RS(G)/779/8 dated 18.03.2024 referred above. The charges for inspection by RITES shall also be as per letter dated 18.03.2024.

4. A suggestive Process Inspection Order for process inspection of PSC Sleepers is enclosed as Annexure A.

5. This issues with the approval of Railway Board (MI).

Encl: As above

Anurag Grover
03/03/25

(Anurag Grover)
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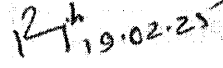
VARIOUS STAGES OF "INSPECTION" OF PSC SLEEPERS AT CONCRETE SLEEPER PLANT

Summary of Shift Activity

S. No.	Shift	Required	Remarks
1.	A, B & C Shift (8 hrs 30 mins each) Activity wise Details attached as per Annexure 'A'	3 Inspecting Engineer for 3 Shifts (One Each) Total Mandays/Month=90	30 Mins Break and 30 Mins Shift handover time
2.	General Shift (8 Hr) Activity wise Details attached as per Annexure 'B'	1 Inspecting Engineer for General Shift Total Mandays/Month=30	30 Mins Break
3.	IC Issue, Lot Verification & HTS wire lot inspection	General Shift 1 Sr. Inspecting Engineer 01 visit per week and 02 days visit per month for HTS wire Lot inspection Total Mandays/Month =06	NA

Note: All the tests, checks, calibration of equipment/machines, production of sleepers and inspections are to be carried out as detailed in IRS specifications IRS T-39/IRS T-45/ IRS T-46 and other relevant specification.


Nem Singh Baghel
Dy. Chief Engineer/TS
Northern Railway


Ritesh Parihar
DGM/I
RITES Limited

VARIOUS STAGES OF "INSPECTION" OF PSC SLEEPERS AT CONCRETE SLEEPER PLANT

(Annexure-'A')					
ACTIVITIES TO BE CHECKED EVERY HOUR IN EVERY SHIFT WORKING FOR WIDER SLEEPERS					
S.No.	Activity	Numbers to be checked	Time consumed in an activity	Net Time	Remarks (Per Shift Basis)
<u>Process Inspection in shift (A, B and C)</u>					
1	Cleaning, application of Mould oil in Moulds & Placement of HTS wire.	01 nos. bench having 08 moulds	1nos. x 5 min.	5 min.	54 min./ hour Process inspection
2	Stressing of HTS wire (Dia & lay length)		1nos. x 5 min.	5 min.	
3	Batching & mixing of concrete in weigh batcher. Aggregates moisture content check using moisture sensor	CC for casting of 01 bench	1nos. x 10 min	10 min.	
4	Placement and compaction of concrete including checking of a	01 nos. bench having 08 moulds	1nos. x 10 min	10 min.	

1
7h
19.02.25

R. Gupta
19.02.25

VARIOUS STAGES OF "INSPECTION" OF PSC SLEEPERS AT CONCRETE SLEEPER PLANT

	vibrator with Tacheometer.				
5	Checking of Steam Curing arrangement.	01 nos. steam chamber	1nos. x 5 min.	5 min.	
6	Checking of de-molding of sleepers and visual end dimension of Mould and Bench	01 nos. bench	1nos. x 15 min.	15min.	
7	Checking of steam cubes	01 nos.	1nos. x 04 min.	5 min.	
Total Required Time					55Mins/Hour

1
7h
19.02.25

12^{pm}
19.02.25

VARIOUS STAGES OF "INSPECTION" OF PSC SLEEPERS AT CONCRETE SLEEPER PLANT

(Annexure-'B')					
General Shift					
Note: Assuming daily production of 1000 sleepers and monthly production of 25000 sleepers					
1	Cement (i.e. Batch: Control Unit Number)				
	Sp. gravity	Once for each Batch	One sample x30 min	30 min./15 days	11 hr / month considering two control units/month
	Initial setting time	Once for each Batch	One sample x120 min	240 min./15 days	
	Final setting time	Once for each Batch	One sample x230 min		
	Normal consistency	Once for each Batch	One sample x30 min	30 min./15 days	
	Fineness test	Once for each Batch	One sample x15 min	30 min./15 days	
2	High Tensile Steel				
	Nominal Weight	One Number each day	01 x 05 min	5 min.	2.5 hr/month
3	AGGREGATES (i.e. Lot: One stock pile/week) Coarse/Fine				
	Crushing strength	Once for each lot	One sample x 30 min	30 min./week	10 hrs/month
	Impact load test	Once for each lot	One sample x 30 min	30 min./week	
	Soundness test	Once for each lot	One sample x 30 min	30 min./week	
	Flakiness strength	Once for each lot	One sample x 30 min	30 min./week	
	Abrasion test.	Once for each lot	One sample x 30 min	30 min./week	

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VARIOUS STAGES OF "INSPECTION" OF PSC SLEEPERS AT CONCRETE SLEEPER PLANT

4	WATER				5 hr/month
	PH value test	1 sample/day	1 sample x 5min	10 MINUTES/ DAY	
	TDS	1 sample/day	1 sample x 5min		
5	SGCI INSERT (Lot: 25000 Nos.per week)			750 MINS./WEEK	50 hrs/month
	DIMENSION	1% of lot	250 sample x 1 min		
	Weight test	1% of lot	250 sample x 1 min		
	Hammer test	1% of lot	250 sample x 1 min		
6	FINAL INSPECTION (Lot: 1000 Sleepers per day in 2 shifts)				
	Dimension	Critical dimension- 10% of the lot & non critical 1% of the lot	100x1min+10x1 min	110 min/day	55 hrs/month
	Modulus of rupture	Once a week	1 sample x 5 min	5 Min./week	0.33 hrs/month
	Moment of failure (MF) test (for rail seat bottom)	1nos./ 2500 sleepers	1 sample x 15 min	10x15 Min./month	2.5 hrs/month
	Moment of Resistance (MR) test (Rail seat bottom, centre top, centre bottom)	1nos./ shift	2 sample x 15 min	30 Min./day	15 hrs/month
	Visual Check and Measurement	100%	1000 sample x 7 secs	2hr/day	60 hrs/month

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K.P.H.
19.02.25

**VARIOUS STAGES OF "INSPECTION" OF PSC SLEEPERS AT
CONCRETE SLEEPER PLANT**

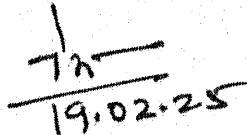
	of electrical resistance				
	Checking of water cured cube strength.	06 Nos.	12Nos.x4 min.	48 min/day	24 hrs/month
7	CALIBRATION				
	15 cm concrete cube testing machine (2000 KN capacity)	Once in 3 months	1 sample x15 min	15 min/3 months	
	Cement mortar cube testing machine (500 KN capacity)	Once in 6 months	1 sample x15 min	15 min/6 months	
	Sleeper Static Bend Test Machine (1000 KN capacity)	Once in 3 months	1 sample x15 min	15 min/3months	
	Pre tensioning Jacks (500 KN capacity for single mould bench) & (1000 KN Capacity for twin mould bench)	Once a month	1 sample x15 min	15 min/month	5 hrs/Month
	Pre-tensioning load cell	Once a month	1 sample x15 min	15 min/month	
	Concrete Beam Testing Machine (100 KN capacity)	Once in 6 months	1 sample x15 min	15 min/6 months	

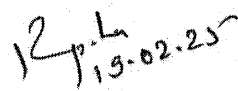
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**VARIOUS STAGES OF "INSPECTION" OF PSC SLEEPERS AT
CONCRETE SLEEPER PLANT**

Aggregate weight batcher	Once in a week	1 sample x15 min	15 min/week	
Cement weighing equipment	Once in a week	1 sample x15 min	15 min/week	
Water Meter	Once in a week	1 sample x15 min	15 min/week	
Admixture dispenser	Once in a week	1 sample x15 min	15 min/week	
Master gauges for checking correctness of dimension measuring gauges	Once in 6 months	1 sample x15 min	15 min/6 months	
Total Required Time				240hrs/Month


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