

(भारत सरकार) GOVERNMENT OF INDIA
(रेल मंत्रालय) MINISTRY OF RAILWAYS
(रेलवे बोर्ड) RAILWAY BOARD



No. 2012/Sig/M/7/Gen/(DAC)/Pt

New Delhi, Dt: as signed

General Managers,
All Zonal Railways.

Sub: Installation of Glued Joint.

- Ref: (i) Board's Lt no. 2018/CE-II/TK/S&T/AGJ & DH dtd 20.08.2020.
(ii) Board's Lt no. Track/21/2005/0110ATWelding dtd 02.07.2024.
(iii) Board's Lt no. Track/21/2005/0110ATWelding. Vol.I dtd 01.04.2025
(iv) Board's Lt no. 2023/GS/SIG/Typical Abstract Estimate dtd
31.12.2024

Vide Board's letter dtd 20.08.2020 under ref. (i) above , instructions were issued that for all future works in Block sections, glued joints shall be avoided by providing DAC with design redundancy for BPAC, IBS application and ABS applications i.e. in block section.

Vide Board's letter dtd 02.07.2024 under ref. (ii) above , it was mentioned in para (d) that MSDAC and AFTC are to be used in Yards to completely eliminate requirement of Glued Joint/IRJ.

However with the proliferation of axle counters in the yards, issues have been observed in use of only axle counters as track detection system, specially in yards where there are frequent shunting movements, formation / splitting of long hauls etc. As such in partial modification of Board's letter dtd 02.07.2024, para (d) has been modified as under, (reference (iii) above):

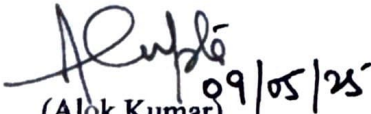
“(d) Installation of Glued Joint:

With the use of MSDAC (Multi Section Digital Axle Counter) and AFTC (Audio Frequency Track Circuit), use of glued joints from track can be altogether eliminated in block sections. Railway Board has already issued instructions in this regard vide Board's letter No. 2018/CE-II/TK/S&T/AGJ & DH dated 20.08.2020.”

Hence forth, Zonal Railways should plan all works for track detection system as per Railway Board's letter No 2023/GS/SIG/Typical Abstract Estimate dtd. 31.12.2024.

This issues with the approval of Board (Member Infra).

DA: As above


(Alok Kumar)
Executive Director/Tk(P&P)


(Rameshwer Meena)
Executive Director (Signal)

Copy to: PCEs and PCSTEs - All Zonal Railways

भारत सरकार (GOVERNMENT OF INDIA)
रेल मंत्रालय (MINISTRY OF RAILWAYS)
रेलवे बोर्ड (RAILWAY BOARD)

No.2018/CE-II/TK/S&T/AGJ & DH

New Delhi, Dated: 20.08.2020

①6 → All General Managers,
Indian Railway

Sub: Improving performance of Track – Avoiding requirement of Glued Joints and Drilling of holes in rails for S&T and Traction Installation (TI) fixtures.

Glued Joints are weak link in track as their life is substantially lower than rails and its failure rates are also much higher. Insertion of Glued joints require AT welds, which are also weak joints and need attention/testing & replacements from time to time.

S&T and TI fixtures are connected to rail, mostly by drilling holes in rails. 90 UTS (and higher grade) rails, being more brittle in nature, are very sensitive to the dents and holes. The location of holes becomes a stress concentration point and initiation of cracks may take place from these locations.

In order to enhance safety and service life of rails along with reduction of asset failures, Railway Board (ME, MTR and MS&T) has decided that:

1. **For all new works:**

- For all future works in Block sections, glued joints shall be avoided by providing digital axle counters with design redundancy for Block Proving Application (BPAC), Intermediate Block Signalling (IBS) Application and Automatic Block Signalling (ABS) Applications.
- As regards yards and station sections, extant instructions for providing track detection systems shall continue.

At present, the works should be planned with track devices capable of fitting with the help of holes and bolt arrangement. Further, clamp type fixing arrangements will be developed and provided on trial basis. On the basis of trials, RDSO will approve for regular use or Aerial earth wire shall be tried as defined in code of practice para 2.3 of earthing and bonding code for 25 KV 50 Hz, single phase traction system issued by RDSO.

ok
कृपया सभी रेलवे
को जारी करें।
AGJ
20.08.2020

21/08/2020

2. **For sanctioned works on GQ/GD & HDN routes:**

- a) For all sanctioned works in Block sections, glued joints shall be replaced by providing digital axle counters with design redundancy for Block Proving Application (BPAC), Intermediate Block Signalling (IBS) Application and Automatic Block Signalling (ABS) Applications.
- b) As regards yards and station sections, extant instructions for providing track detection systems shall continue.

At present, the works should be planned with track devices capable of fitting with the help of holes and bolt arrangement. Further, clamp type fixing arrangements will be developed and provided on trial basis. On the basis of trials, RDSO will approve for regular use.

3. Field trials of Rail Earth Clamp for Traction Installations over Zonal Railways should be made. On the basis of results of trials, these will be approved for use over IR by RDSO or Aerial earth wire shall be tried as defined in code of practice para 2.3 of earthing and bond code of 25 KV, 50 Hz, single phase 50 Hz, single phase traction system issued by RDSO.


(Pradeep Nagar)
Director Civil Engg.(Plg.)
Railway Board
20.08.2020

भारतसरकार / GOVERNMENT OF INDIA
रेलमंत्रालय / MINISTRY OF RAILWAYS
(रेलवेबोर्ड) / (RAILWAY BOARD)

सं/No. Track/21/2005/0110ATWelding

दिनांक/Date: 02.07.2024

Chief Administrative Officers(Con.),
All Indian Railways.

Chairman & Managing Director,
RITES Bhawan,
Plot No.1, Sector 29,
Gurgaon -122001.

Chairman & Managing Director,
Rail Vikas Nigam Limited,
August Kranti Bhawan,
Bhaikaji Cama Place,
New Delhi.

Managing Director,
Konkan Railway Corp. Ltd.
Design Office, 4th Floor,
DFCCIL Building, Mathura Rd,
Pragati Maidan,
New Delhi-110001.

Chairman & Managing Director,
M/s IRCON International Ltd.,
C-4, District Centre,
Saket, New Delhi-110017.

विषय/Sub: Reduction in AT Welding on Indian Railways – Road Map.

- संदर्भ/Ref:**
1. Board's letter of even number dated 28.08.2019.
 2. Board's letter No. Track/21/2005/0110/7/AT Welding Vol. I dated 14.02.2022.

In the last few years lot of emphasis has been laid to reduce numbers of AT Welds. Comprehensive guidelines regarding Reduction of AT Welding on Indian Railways were issued vide Board's letters referred above. The important points are reiterated again for implementation:

For Construction Projects:

a) Use of only long rail panels (260m) in Main line

Only 260m rail panels are to be used in field. For this supply of long rail panels to be taken from rail manufacturing plants.

b) Welding of long rail panels in construction projects to convert into LWR in Main line

These should be in-situ FB welded by Mobile FBW Plants.

c) Welding in Points & Crossings area

Railway Board, has already issued instructions that to reduce AT Welding, single rails are not to be used in the P&C area. So rails of different lengths required to be used in P&C should be obtained by cutting long rail panels.

Contd..../2

Handwritten signature
02.07.24

d) Installation of Glued Joint

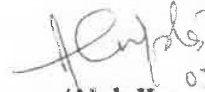
With the use of MSDAC (Multi Section Digital Axle Counter) and AFTC (Audio Frequency Track Circuit), use of glued joints from track can be altogether eliminated. Railway Board has already issued instructions in this regard.

e) Welding in loop lines and sidings

For loop lines and sidings, Mobile FBW Plants should be used for welding.

g) In station area only, AT welds should be done at locations not feasible for FB welding.

Construction Organizations/PSUs are advised to strictly adhere to the above instructions.


02.07.24

(Alok Kumar)
Executive Director/Track (P&P)
Railway Board
New Delhi 110001
E-mail: alokkumar.g@gov.in

प्रतिलिपि/Copy to: PCE's/All Indian Railways: For their information and enforcing above through their officers.

भारत सरकार / GOVERNMENT OF INDIA
रेलमंत्रालय / MINISTRY OF RAILWAYS
(रेलवे बोर्ड) / (RAILWAY BOARD)

सं/No. Track/21/2005/DIIOATWelding/Vol.1

दिनांक/Date: 01.04.2025

Chief Administrative Officers(Con.),
All Indian Railways.

Chairman & Managing Director,
RITES Bhawan,
Plot No.1, Sector 29,
Gurgaon -122001.

Chairman & Managing Director,
Rail Vikas Nigam Limited,
August Kranti Bhawan,
Bhaikaiji Cama Place,
New Delhi.

Managing Director,
Konkan Railway Corp. Ltd.
Design Office, 4th Floor,
DFCCIL Building, Mathura Rd,
Pragati Maidan,
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Chairman & Managing Director,
M/s IRCON International Ltd.,
C-4, District Centre,
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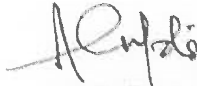
विषय/Sub: Reduction in AT Welding on Indian Railways – Road Map.
संदर्भ/Ref: Board's letter of even number dated 02.07.2024.

In partial modification of Board's letter under reference, para (d) may be read as under:-

“(d) Installation of Glued Joint

With the use of MSDAC (Multi Section Digital Axle Counter) and AFTC (Audio Frequency Track Circuit), use of glued joints from track can be altogether eliminated in block sections. Railway Board has already issued instructions in this regard vide Board's letter No. 2018/CE-II/TK/S&T/AGJ & DH dated 20/08/2020. *

Construction Organizations/PSUs are advised to strictly adhere to the above instructions.


(Alok Kumar)
Executive Director/Track (P&P)
Railway Board
New Delhi 110001
E-mail: alokkumar.g@gov.in

प्रतिलिपि/Copy to: **PCE's/All Indian Railways** : For information and taking necessary action please.

(भारत सरकार) **GOVERNMENT OF INDIA**
(रेल मंत्रालय) **MINISTRY OF RAILWAYS**
(रेलवे बोर्ड) **RAILWAY BOARD**

2023/GS/SIG./Typical Abstract Estimate
(C.No.3417115)

New Delhi, dtd.31.12.2024

**General Manager,
Indian Railways**

Subject: Price estimation for preparation of DPR for Signaling works

Ref: 2023/GS/SIG./Typical Abstract Estimate (C.No.3417115), dtd.01.05.2023.

Vide above reference, normative cost estimation for major signalling works was issued.

2. Accordingly, to streamline the estimation of S&T works in DPR preparation, approximate price for signalling works have been revised and are as under:

S. No.	Type of Signalling Work	Key Elements	Approximate Cost in Rs
1	Provision of Double Distant	Signalling Cable, ELB with Sliding Boom, RCC Duct, Fire detection system, Fuse failure Alarm, Data logger RTU.	70.0 Lacs per station/location
2	Interlocking of Mid-Section LC Gate with double distant signal.	Building/Gumtee, AT, IPS, Signalling Cable, ELB with Sliding Boom, RCC Duct, Fire detection system, Fuse failure Alarm, Data logger RTU.	1.33 Cr per gate
3	Provision of Automatic Block Signalling (ABS)	EI, Building/Gumtee, AT, IPS, Digital Axle counter with design redundancy, Signalling Cable, Quad/OFC, ELB with Sliding Boom, RCC Duct, Fire detection system, Fuse failure Alarm, Data logger RTU.	1.36 Cr/Rkm
4	Provision of Intermediate Block Signalling (IBS)	Building/Gumtee, AT, BPAC, IPS, Digital Axle counter with design redundancy, Signalling Cable, Quad/OFC, ELB with Sliding Boom, RCC Duct, Fire detection system including air aspiration type for Relay Room, Fuse failure Alarm, Data logger RTU.	4.39 Cr per IBS
5	Provision of EI on 2 Road Stn. Single Line	Building, AT, BPAC, IPS, Axle counter in parallel with DC track Circuit, Signalling Cable, Quad/OFC, ELB with Sliding Boom, RCC Duct, Fire detection system, Fuse failure Alarm, RDPMS, Data logger RTU, AC for relay room.	9.70 Cr per station (This includes cost of ₹1.48 Cr for station building)
6	Provision of EI on 3 Road Stn. on Single Line		11.02 Cr per station (This includes cost of ₹1.48 Cr for station building)
7	Provision of EI on 4 Road Stn. on Double Line		13.10 Cr per station (This includes cost of ₹1.48 Cr for station building)
8	Provision of EI on 5 Road Stn. On Double Line.		14.48 Cr per station (This includes cost of ₹1.48 Cr for station building)

2023/GS/SIG./TypicalAbstractEstimate

I/3113400/2024

Note:

- i. Station building has been considered as per RB Letter No. 2024/I & Trans. Cell/SOCC Dt. 21.06.2024.
- ii. Above prices are inclusive of extant taxes and Dept. charges.
- iii. Schematic of Signaling works shall be finalised by Zones in accordance with site requirements and extant guidelines.
- iv. Cable duct shall be as per extant guidelines.

3. The above rates are approximate and should be adopted for preparation and appraisal of DPRs/abstract estimates and not for any other purpose. In other cases, actual cost should be taken into consideration.

This issues with the approval of Associate Finance and approval of Board (MI).

Signed by

Jonal Chaudhary

Date: 31-12-2024 10:28:01

DIR/GS/S&T

Railway Board

Copy to:

1. PCSTE, All Indian Railways for information & N/A.
2. PFA, All Indian Railways for information & N/A.
3. CAO/C, All Indian Railways for information & N/A.

Signed by Nirmala Usha

Tirkey

Date: 31-12-2024 10:46:01

**Reason: Approved
for Member (Finance), Railway Board**