

822006/2020/O/o BDM/RACK-1/RDSO



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No. CT/Welding/R260

Date: 05.08.2020

As per Mailing List attached

Sub: FB welding guidelines for R260 Grade rails.**Ref:** Railway Board's letter no. 2020/Track-I(P)/R260 Grade Rails dated 30.07.2020.

Technical specification for R260 Grade Rails has been approved by Railway Board vide letter no. 2020 Track-1(P)/R260 Grade Rails dated 26.06.2020 and production of R260 grade rail has also been started by SAIL in Bhilai Steel Plant (BSP). These rails shall be supplied to Zonal Railways by BSP.

Guidelines for Flash Butt welding of R260 Grade Rails have been approved by Railway Board vide letter under reference including the Test Regime to be followed. The same is attached herewith as Annexure- A for compliance please. It is requested to send the feedback with details of the test results of Flash Butt welds executed by Zonal Railway on monthly basis to RDSO for further review of Guidelines and proposed Test Regime.

DA: As above.Pradip
kumarDate: 2020.08.05
13:50:53 +05'30'**(Pradip Kumar)**

Executive Director/Track-II

Copy to:

Director/Track(P), Railway Board, Rail Bhawan, New Delhi-110001 for information please.

ANNEXURE-A**GUIDELINE FOR FLASH BUTT WELDING OF R260 GRADE RAILS**

Technical specifications for R260 Grade Rails have been approved by Railway Board vide letter no. 2020 Track-1(P)/R260 Grade Rails dated 26.06.2020 and production of R260 grade rail has also been started in BSP/Bhilai. These rails shall be supplied to Zonal Railways by BSP. Based on Trial results of FB welding done at rail manufacturing plant with welding parameters for 60 Kg 90UTS rails standardized by RDSO for Stationary Flash Butt Welding Plant, following Test regime is to be followed for FB welding of R260 grade rails in field:

- (A) FB welding may be continued with welding parameters for 60Kg 90UTS rails standardized by RDSO as per approved QAP for that particular plant as per FBW Manual-2012.
- (B) Considering provisions of Para 5.7 of FBW Manual, following procedure is to be adopted before starting the regular production of FB weld joints of R260 grade rails in field using welding parameters fixed for 60Kg 90UTS rails:
1. 30 FB welds should be made on track in two shifts (15 welds in each shift).
 2. All 30 FB joints should qualify the criteria for Visual, Dimensional and Ultrasonic test as per Para 10.1.1, 10.1.2 & 10.1.3 of FBW Manual-2012.
 3. Six FB weld joints shall be selected randomly from each shift. For each shift, Hardness test on all 6 samples, Transverse load test on 3 samples, Macro examination on remaining 3 samples and Micro examination on one sample (selected out of 3 welds taken for Macro examination) shall be carried out. These weld joint shall comply with the respective requirements of test defined in Para 10.2.1 (Hardness), 10.2.2 (TLT) & 10.2.3 (Macro & Micro). Permissible values corresponding to the 60Kg 90UTS rails as mentioned in the FB Welding Manual shall be considered.
 4. These trials shall be carried out in presence of Engineer in-charge and the approval shall be granted by Chief Track Engineer/ Chief Engineer (construction) accordingly.
 5. In case the above results of FB welding are non-conforming to the above procedure, regular production of FB welds shall not be carried out. In such case, standardization of separate welding parameters for R260 grade rails shall be required as per standardization procedure mentioned in the FB Welding Manual.

(C) Frequency of Testing in production of FB welds of R260 Grade Rails

1. **Hardness and Transverse Load Test:** 1 in 100 for first 1,000 joints welded by Flash Butt welding plant (both Stationary and Mobile plants) and subsequently at a frequency of 1 in 500 joints.
2. **Macro and Micro Examination:** One test joint for every 1,000 joints welded by Flash Butt welding plant (both Stationary and Mobile plants) shall be subjected to macro examination and micro examination.

- (D) Zonal Railways shall maintain the record of flash butt welding of R260 grade rails and shall share their test results with RDSO on monthly basis for further decision.

Mailing list

Chief Track Engineer,	मुख्य रेलपथ अभियंता
1. Central Railway, Mumbai CST - 400 001.	1. मध्य रेलवे, मुंबई सीएसटी-400001
2. Eastern Railway, Fairlie Place, Kolkata-700 001.	2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता-700001
3. East Central Railway, Hajipur – 844 101.	3. पूर्व मध्य रेलवे, हाजीपुर-844101
4. East Coast Railway, Bhubaneshwar – 751016	4. पूर्व तटीय रेलवे, भुवनेश्वर-364001
5. Northern Railway, Baroda House, New Delhi-110 001.	5. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली-110001
6. North Central Railway, Allahabad – 211 001.	6. उत्तर मध्य रेलवे, इलाहाबाद-211001
7. N.E.Railway, Gorakhpur-273 012.	7. पूर्वोत्तर रेलवे, गोरखपुर-273012
8. N.F.Railway, Maligaon, Guwahati – 781011.	8. पूर्व सीमान्त रेलवे, मॉलीगॉव, गुवाहाटी-781011
9. North Western Railway, Jaipur – 302001.	9. उत्तर पश्चिम रेलवे, जयपुर-755001
10. Southern Railway, Park Town, Chennai-600 003.	10. दक्षिण रेलवे, पार्क टाउन, चेन्नई-600003
11. South Central Railway, Rail Nilayam, Secunderabad- 500 371.	11. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद-500371
12. South Eastern Railway, Garden Reach, Kolkata-700043.	12. दक्षिण पूर्व रेलवे, गार्डनरिच, कोलकाता-700043
13. South East Central Railway, Bilaspur- 495004.	13. दक्षिण पूर्व मध्य रेलवे, बिलासपुर-495004
14. South Western Railway, Hubli – 589020.	14. दक्षिण पश्चिम रेलवे, हुबली-580023
15. Western Railway, Churchgate, Mumbai-400 020.	15. पश्चिम रेलवे, चर्चगेट, मुंबई-400020
16. West Central Railway, Jabalpur – 482001.	16. पश्चिम मध्य रेलवे, जबलपुर-482001

• The Chief Administrative Officer (Construction):	मुख्य प्रशासनिक अधिकारी (निर्माण)
1. Central Railway, Mumbai CST - 400 001.	1. मध्य रेलवे, मुंबई सीएसटी-400001
2. Eastern Railway, Fairlie Place, Kolkata-700 001.	2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता-700001
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4. East Coast Railway, Bhubaneshwar – 751016	4. पूर्व तटीय रेलवे, भुवनेश्वर-364001
5. Northern Railway, Baroda House, New Delhi-110 001.	5. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली-110001
6. North Central Railway, Allahabad – 211 001.	6. उत्तर मध्य रेलवे, इलाहाबाद-211001
7. N.E.Railway, Gorakhpur-273 012	7. पूर्वोत्तर रेलवे, गोरखपुर-273012
8. N.F.Railway, Maligaon, Guwahati – 781011.	8. पूर्व सीमान्त रेलवे, मॉलीगॉव, गुवाहाटी-781011
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10. Southern Railway, Park Town, Chennai-600 003.	10. दक्षिण रेलवे, पार्क टाउन, चेन्नई-600003
11. South Central Railway, Rail Nilayam, Secunderabad- 500 371.	11. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद-500371