



पञ्चमस्य - २०१७
अनुसंधान, प्रविष्टि, प्रयोग, प्रदर्शन
महानगर - २२६ ०११
EPBX (०५२२) २४५१२००
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Government of India-Ministry of Railways
Research Design & Standards Organisation
Lucknow - २२६ ०११
DO (०५२२) २४५०११५
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पत्र सं० CT/Welding/Investigation

दिनांक- ०५.०१.२०१७

१ महाप्रबंधक (इंजीनियरिंग/वक्सी)

१. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस (बी.टी.), मुम्बई-४००००१
२. पूर्व रेलवे, फेयरली प्लेस, कोलकाता-७०० ००१
३. उत्तर रेलवे, बडोदा हाउस, नई दिल्ली-११० ००१
४. पूर्वोत्तर रेलवे, गोरखपुर-२७३ ०१२
५. दक्षिण रेलवे, पार्क टाउन, चेन्नई-६०० ००३
६. दक्षिण मध्य रेलवे, रेल निलयम, सिकन्दराबाद-५०० ३७१
७. पश्चिम रेलवे, चर्च गेट, मुम्बई-४०० ०२०
८. दक्षिण पूर्वी रेलवे, गार्डन रीच, कोलकाता-७०० ०४३
९. उत्तर पूर्वी सीमांत रेलवे, मालीगाँव, गोहाटी-७८१ ०११
१०. पूर्व मध्य रेलवे, हाजीपुर-८४४ १०१
११. पूर्व तटीय रेलवे, भुवनेश्वर-७५१ ०२३
१२. उत्तर मध्य रेलवे, इलाहाबाद-२११ ००१
१३. उत्तर पश्चिम रेलवे, जयपुर-३०२ ००६
१४. दक्षिण पूर्व मध्य रेलवे, बिलासपुर-४९५ ००४
१५. दक्षिण पश्चिम रेलवे, हुबली-५८० ०२३
१६. पश्चिम मध्य रेलवे, जबलपुर-४८२ ००१
१७. मेट्रो रेलवे, मेट्रो रेल भवन, ३३/१, जे.एल. नेहरू रोड, कोलकाता-७००००१

Sub: Precautions to be taken during AT Welding of Rails in field

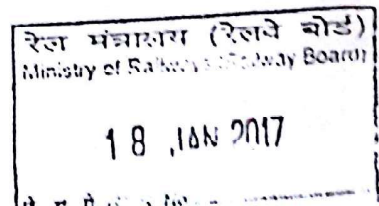
Recently, in a weld fracture investigation report, it was found that the fracture in the weld was initiated due to porosity in the AT weld which rendered the weld weaker and attributed towards the premature failure of the weld due to service impacts.

In view of above, the precautions which should be taken during AT welding in the field are being reiterated to be observed during AT Welding of Rails in field as follows:

१. It should be ensured that the portion being used matches with type and chemistry of rail.
२. Rail ends should be square.
३. Alignment of rail ends should be within the stipulated tolerances as checked by straight edge.
४. Rail ends should be properly cleaned with kerosene oil and wire brushes.
५. Stop watch should be provided to the welding supervisor at each welding site.
६. Pressure in the tanks/cylinder should be properly maintained during pre-heating.
७. Correct gap between rail ends at head, web and foot shall be ensured.
८. Correct preheating time for rail ends shall be ensured.
९. Tightness of clips fitted with hose connections to compressor tank and burner shall be checked before commencing preheating.
१०. Nozzles of burners shall be cleaned periodically to avoid backfire.
११. The compressor tank shall be kept at least २ to ३ m away from burner to prevent fire hazard.
१२. The tapping shall be done within the time specified for that particular technique or automatically. For special type of welding i.e. ७५mm gap, combination joint etc. the time of reaction and tapping shall be as stipulated by RDSO for that particular welding technique.
१३. Hydraulic weld trimmer shall be used for trimming extra weld metal.
१४. Arrangements for giving first aid shall be available at site.
१५. Welders should be provided with gloves and coloured glasses.

Validity unknown

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16. Boiling portion shall be out tappered.
17. No moist portion/ torned bag portion shall be used for welding.
18. Dampness in moulds can lead to porosity and early fatigue failure of welds.
19. Only welders having valid competency certificate shall be employed for execution of weld.
20. Only those contractual agencies as have clearance from the RDSO/Railway Board can execute welding work.
21. Supply of portions must be from sources approved by RDSO/Railway Board.
22. Many weld failures show evidence of badly cut rail ends. The evenness and verticality of a rail cut depends solely upon the skill of the welder. With portable disc cutters, very little skill is required to produce good cut.
23. A thermit welding done in-situ shall be joggle fish plated with two clamps and supported on wooden blocks of 300-450 mm length until tested as good by USFD.
24. The supervisor incharge of the welding should acquaint himself periodically with the provisions of 'Manual for Fusion Welding of Rails by the Alumino-thermic Process- Revised 2012' and instructions issued from time to time. This aspect should be monitored by officials visiting field from time to time.

It is advised that these instructions may be circulated for sensitizing the field staff and strict compliance at field level. This may be given a wide publicity by arranging workshop and seminar at Zonal/ Divisional/Sub - divisional level and at SSE (P. Way) office /workshop.

संलग्न- कुछ नहीं ।

(रंजीत कुमार)
संयुक्त निदेशक/रेलपथ.5
क्षेत्र महानिदेशक/रेलपथ

प्रति सूचनाय प्रेषित :

II महाप्रबंधक; निर्माण; उत्तरपूर्वी सीमांत रेलवे, मालीगौंव, गोहाटी-781011

III मुख्य प्रशासनिक अधिकारी (निर्माण):

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2. पूर्व रेलवे, चौथा तल, नया कोयलाघाट बिल्डिंग, स्ट्रैंड रोड, कोलकाता-700001
3. उत्तर रेलवे, कश्मीरी गेट, नई दिल्ली -110008
4. पूर्वोत्तर रेलवे, गोरखपुर-273 012
5. उत्तर मध्य रेलवे, इलाहाबाद -211001
6. दक्षिण रेलवे, इगमोर, चेन्नई -600003
7. दक्षिण पश्चिम रेलवे, 18 मिलर रोड बैंगलूर -560 046
8. दक्षिण मध्य रेलवे, रेल निलयम, सिकन्दराबाद-500 371
9. दक्षिण पूर्वी रेलवे, गार्डन रीच, कोलकाता-700 043
10. पूर्व मध्य रेलवे, हाजीपुर-044 101
11. पूर्व तटीय रेलवे, भुवनेश्वर-751 023
12. पश्चिम रेलवे, चर्च गेट, मुम्बई-400 020
13. उत्तर पश्चिम रेलवे, जयपुर-302 006
14. दक्षिण पूर्वी मध्य रेलवे, विलासपुर-495 004
15. यू.एन.वी.आर.एल. प्रोजेक्ट, उत्तर रेलवे, जम्मू-180001

प्रति सूचनाय प्रेषित :

✓ कार्यकारी निदेशक/रेलपथ (पी), रेलवे बोर्ड, रेल भवन, नई दिल्ली -110 001

संलग्न- कुछ नहीं ।

(रंजीत कुमार)
संयुक्त निदेशक/रेलपथ.5
क्षेत्र महानिदेशक/रेलपथ