Draft Addendum & Correction Slip No. 2 of March 2025 To IRS Specification for Fusion Welding of Rails by Alumino Thermic Process Serial No. IRST-19-2021

1. **Para 2.4 has been modified as :**

All the provisions contained in RDSO's ISO procedure~~s~~ laid down in Document No. QO- D-8.1-11 ~~dated 01.07.2020~~, (latest Version) ~~Version~~ ~~No: 1.3,~~ (titled "Vendor-Changes in approved status") ~~and subsequent versions/amendments thereof~~, shall be binding and applicable on the successful vendor/vendors in the contracts floated by Railways to maintain quality of products supplied to Railways.

2. **Para 3.2 has been modified as:**

Every portion shall be packed in a moisture proof bag of polyethylene to IS:9738, "Indian Standard Specification for polyethylene bags for general purposes" Grade HM HDPE of minimum 150micron thickness, which shall be sealed so as to make it airtight. The polyethylene bag shall be packed in a heavy duty bag made of new cloth to IS: 187 ~~or any other superior packaging approved by RDSO~~. The open end of this packaging shall be stitched and sealed in such a manner that there is no access to the 'portion' without damaging the bag / packaging or breaking its seal.

Then the portion shall be placed in Single Shot Crucible (SSC) fitted with Automatic Tapping Thimble (ATT) and metal lid tightly fitted. Top of the lid to be paint marked as per colour code of respective AT welding technique. A printed label bearing the details as per para 3.3 of IRST-19 shall be affixed on the outer wall of SSC and placed in polyethylene bag of minimum 100micron thickness & heat-sealed for protection from moisture. The heat sealed SSC containing the portion shall be packed in heavy-duty corrugated box. The box shall have a coloured strip of 75 mm width printed at the middle of the box as per colour scheme given in para 3.4 of this specification. The coloured strip shall run at centre of face and top of the box. The box shall be sealed by adhesive tape and shrink wrapped with polyethylene of minimum 100micron thickness.

Note-

i) The inspecting officials shall ensure proper sealing of the boxes either with hologram OR tamper proof lead seal, passing through the criss-cross strap meant for final packing.

ii) Proper protection of ATT hole and thimble shall be ensured in transportation by using a piece of card board or similar material. A vinyl/PVC sticker shall be affixed on outside bottom of ATT hole to protect SSC from moisture.

iii) Printed labels containing working instructions/precautions for handling, stacking, transportation & safe storage shall be affixed on outer wall of SSC and on one vertical face of the box to ensure clarity in the working. Sample label may be referred to in Appendix-IV.

iv) Rail section and tapping system (ATT) shall be printed on one face of the box in letters of size 25mm width & 125mm height (minimum).

v) Name and details of the firm shall be printed on another face of the box.

3. **Para 3.3 - a new sub para (x) has been added:**

   (x) Approved key parameters of AT welding viz. preheating time, pressure, tapping time & reaction time etc. shall be printed on back of labels.

4. **Para 3.5 has been deleted**

5. **Para 5.0- has been modified as:**

   In the event of a batch failing to comply with the requirement of Para 4, the manufacturer will dispose off the rejected portions by igniting off the portions and converting them into metallic form at a safe place in presence of RDSO officials. Alternatively, the rejected batches (portion may be disposed off by mixing them into a pukka pit and adding water to render the portion unusable. The rejected batch shall be kept separately duly marked "Rejected" on each pack in red. Proper record of disposal shall be maintained.

6. **Para 13.3 vi) has been modified as:**

   Subject to the results of the tests in clause 12 and 13 above being satisfactory, firm shall be approved provisionally in the list of "RDSO vendors for developmental orders". ~~for a period of two years~~.

7. **Para 14 has been modified as:**

   14.0 Field Trials/ Field Performance:

   14.1 ~~Subject to the results of the tests in clause 12 and 13 above being satisfactory, firm shall be approved provisionally in list of 'RDSO vendors for development orders'~~. After listing the firm on the list of "RDSO vendors for developmental orders", 100 weld joints (for AT welding technique of same grade of rails) shall be executed by the firm **in first contract** in presence of Zonal Railway representative, not below the rank of JE/SSE. These field trial joints shall be monitored by concerned Zonal Railway as trial joints for a period of one year or till passage of 10 GMT traffic over the joint, whichever is earlier. Considering requirement of welded joints (For AT welding technique of different grades of rails) being very less in number and joints scattered over large stretches and larger time consume, field trial shall not be required for approval of technique for combination welding. The trial joints shall be distinctly marked by painting letter "T" on the web of the rail beyond 300mm from the joints. Field trial report shall be prepared as per Annexure-5 and submitted to RDSO by Zonal Railway after signature of firm's representative and nominated Zonal Railway official not below the rank of JE/SSE and countersigned by concerned sectional ADEN.

8. **Para 14.4 have been modified as:**

   The respective AT welding technique shall be considered for regular adoption on IR only after satisfactory field trial report of above 100 joints.

   The firm may process for upgradation from 'developmental vendor' to 'approved vendor' as per procedure laid down in ISO APEX Document of RDSO. The minimum quantity for upgradation will be as specified in TDG 0017. This minimum quantity is excluding above 100 joints.

9. Relevant part of Para 16.6.4 (c) has been modified as:

Alphabetic codes allotted to the existing portion manufacturing firms/plants are given below:

I**T**C=T, Pandrol/**H**TI=H, **O**TPL=O, ~~**S**IRIL=S~~, RMPL=**R**, **C**DI=C, **P**TEW=P, OR**A**=A, A**M**IABLE=M, TPP(**N**R)=**N**

10. Relevant part of Para 20.0 has been modified as:

Alphabetic codes allotted to the existing portion manufacturing firms/plants are given below:

I**T**C=T, Pandrol/**H**TI=H, **O**TPL=O, ~~**S**IRIL=S~~, RMPL=**R**, **C**DI=C, **P**TEW=P, OR**A**=A, A**M**IABLE=M, TPP(**N**R)=**N**

10. Para 6.0 of Annexure-2 has been modified as:

The insignia containing firm's code allotted (I**T**C=T, Pandrol/**H**TI=H, **O**TPL=O, ~~**S**IRIL=S~~, RMPL=**R**, **C**DI=C, **P**TEW=P, OR**A**=A, A**M**IABLE=M, TPP(**N**R)=**N**) and year of manufacture shall be embossed in the mould during manufacture for identification.

12. Para 9.0 of Annexure -2 has been modified as:

9.0 PACKING**:**

9.1 Each pre-fabricated mould shall be individually packed and sealed in bag of polyethelene conforming to IS: 9738~~-2003~~ Grade HM HDPE of 150 micron thickness or as prescribed by IRS-T-19.

9.2 A ~~pair~~ set of such packed moulds shall again be packed in ~~PVC bucket/box~~ corrugated fibreboard box conforming to ~~IS:3730~~ IS: 2771. Proper seal packing of the ~~bucket/~~box shall be done and shrink wrapped to prevent moisture. ~~The bucket/box shall be auto-locked and not openable without damaging the lid~~.

9.3 Each ~~bucket/~~box shall be clearly marked giving manufacturer's name, date of manufacture and rail section, batch number for easy identification.

13. Para 4.5.1 of Annexure -3 has been modified as:

The container shall be of appropriate thickness and as per approved drawing submitted by the individual manufacturer. It shall be strong enough to protect the Single Shot Crucible during transportation. Handle shall be of suitable strength (with rubber grip at middle) to handle the crucible containing portion safely.

14. Para 6.0 of Annexure -3 has been modified as:

PRODUCT TRACEABILITY: The insignia containing firm's/plants code allotted (I**T**C=T, Pandrol/**H**TI=H, **O**TPL=O, ~~**S**IRIL=S~~, **R**MPL=R, ~~I**F**A=F~~, **C**DI=C, **P**TEW=P, OR**A**=A ,A**M**IABLE=M & TPP(**N**R)=N), ~~as per AT welding Manual~~ and year of manufacture shall be marked in the crucible during manufacture for identification.

Appendix-IV

Firm's name & address		
A.T. WELDING PORTION WITH SINGLE SHOT CRUCLBLE **For SKV Process A.T. Welding**	**Fitted With AUTO TAPPING THIMBLE**	**ATT**

Batch No. :

Portion No. :

Date of Manufacturing:

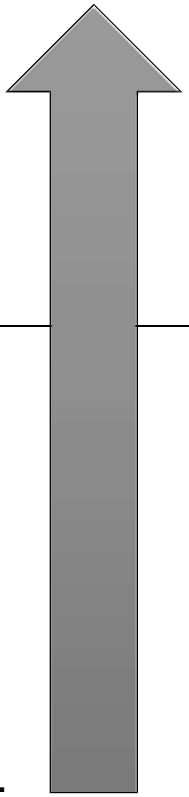
Rail Section & Grade :

Portion Net Wt.: **Kg (±0.25%)**

SSC Net Wt.: **Kg (±0.25%)**

KEEP DRY

THIS SIDE UP



PRECAUTIONS

1. Keep away from moisture. DRY Storage required.
2. Highly hygroscopic material.
3. Stack vertically only.
4. DO NOT DROP: Fragile.
5. DO NOT Stack more than 3 on one another.
6. DO NOT use if the crucible is de-shaped.
7. DO NOT use if the refractory lining or cap is cracked.
8. Always remove bottom sticker before use.
9. Always put Crucible Cap before igniting the portion.
10. Always place Crucible on Mould stably before ignition.
11. Destroy crucible after single use. DO NOT re-use.
12. DO NOT use after 24 months of manufacture without checking reaction quality.