



सत्यमेव जयते

भारत सरकार

रेल मंत्रालय

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**POLICY ON DOMESTIC RAIL PLANTS FOR
SYMMETRICAL RAILS OF DIFFERENT GRADES**

**No. CT/Policy/01
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Issued by

TRACK DESIGN DIRECTORATE

**अनुसंधान अभिकल्प एवं मानक संगठन लखनऊ- 11
Research, Designs and Standards Organisation, Lucknow-11**



Policy on Domestic Rail Plants For Symmetrical Rails of different grades

1. Grade of rails developed/ to be developed by different domestic manufacturers as per IRS-T-12-2009 can be divided into two categories as under:
 - i. **Category – I** : 880 grade, R260 grade, 1080HH grade & 1175HT grade as per IRS-T-12-2009 are considered in Category-I.
 - ii. **Category – II** : NC grade rail as per IRS-T-12-2009 is considered in Category-II.
2. Policy to induct new grade of symmetrical profile of rails developed by domestic manufacturers to be used on IR and other rail networks in India is as under-

A. Category- I

a) New Rail Plant

- i. Vendor of a domestic rail plant which is not yet approved for any of the rail grades would communicate with Railway Board for approval of a particular rail grade. On the direction of Railway Board, RDSO (Track & M&C Dte) would conduct Technical assessment of rail manufacturing capability for that rail grade as per extant RDSO Specifications/Manuals and Guidelines. Welding plant for FB welding of the rail grade would also be assessed as per extant RDSO Specifications/Manuals and Guidelines. Approval of QAP would also be done by RDSO at this stage.
- ii. Based on satisfactory Technical assessment by RDSO, the manufacturer would be considered as Provisionally Approved Vendor, with the approval of Railway Board, for placement of Developmental Order(s) of a cumulative quantity of 25000 T of the particular grade of rail for trial on any domestic rail network on a passenger/mixed (passenger and freight) route.
- iii. Actual working of the plant, with respect to functionality of equipments and systems for achievement of quality standards, being reflected in rejection level in regular production would be monitored by RDSO for this Developmental quantity. Performance of the rail would be assessed in field in any domestic rail network on a passenger/mixed (passenger and freight) route for up-gradation of the status of the vendor as per protocol at **Annexure-A**. Based on the performance, RDSO would draw a report for change of status of the vendor for that particular rail plant from Provisionally Approved Vendor to Approved Vendor for that particular rail grade, for decision by Railway Board.
- iv. Subsequent to the vendor getting Approved status for a New rail plant for one of the rail grades, approval for other rail grades would be following the provisions for Existing rail plant, as stipulated below.

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b) Existing Rail Plant

- i. Vendor of a domestic rail plant which is already approved for any of the rail grades with IR would communicate with Railway Board for approval of another rail grade. On the direction of Railway Board, RDSO (Track & M&C Dte) would conduct Technical assessment of rail manufacturing capability for that rail grade as per extant RDSO Specifications/Manuals and Guidelines. Welding plant for FB welding of the rail grade would be assessed as per extant RDSO Specifications/Manuals and Guidelines. Approval of QAP would also be done by RDSO at this stage.
- ii. Based on satisfactory Technical assessment by RDSO, the manufacturer would be considered as Provisionally Approved Vendor, with the approval of Railway Board, for supply of the particular grade of rail on any domestic rail network in India.
- iii. A "Provisionally Approved Vendor" with an "Existing Rail plant" is technically eligible for full Rail quantity in case of Category-I Rails in a domestic Rail tender as a regular vendor however field performance of the initial supply of 25000T would be assessed for up-gradation of the status of the vendor as described hereunder.
- iv. Field performance of the initial supply of 25000T would be assessed for up-gradation of the status of the vendor. Zonal Railways/other domestic rail network would closely monitor the field performance of rails as per **Annexure-B**. In case any adverse performance is reported, matter would be referred to Railway Board for decision on further supply. Based on the field performance, RDSO would draw a report for change of status of the vendor for that particular rail plant from Provisionally Approved Vendor to Approved vendor for the particular grade of rail, for decision by Railway Board.

B. Category- II

Vendor of a domestic rail plant would communicate with Railway Board for approval of a particular rail grade. On the direction of Railway Board, RDSO (Track & M&C Dte) would frame separate trial protocol for lab and field testing. FB and AT weldability is also to be ensured by the rail manufacturer. These rails are to be laid as per protocol to be approved by Railway Board. RDSO (Track & M&C Dte) and Zonal Railways would closely monitor the performance of rails as per the protocol. Based on the performance of trial, RDSO would draw a report for further decision of Railway Board.

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Annexure-A

- i. Rails of a New rail plant would be laid in identified long stretches having maximum train speed of 110KMPH to facilitate close monitoring of its performance for 25 GMT or one year, whichever is earlier.
- ii. Relaxation in frequency provided during test free/reduced frequency period will not be applicable for USFD Testing. USFD testing is to be carried out as per the normal frequency prescribed in USFD Manual, as applicable after test free/reduced frequency period.
- iii. No painting or any other such treatment shall be done as these rails are under performance monitoring.
- iv. Proper record of defects and performance of rail and weld should be maintained as per the proforma attached i.e. **Annexure-I, II.**
- v. Details of measurement regarding wear and corrosion would be recorded every quarter jointly with firm's representative. Railways to procure rail profile measuring device if not available.
- vi. All rail withdrawals (fracture pieces and IMR) of rail/ weld will be subjected to analysis in M&C lab of RDSO. For analysis, detailed proforma as per Annexure-III & IV of USFD Manual would be submitted.
- vii. During the regular trolley/foot inspections, Sr.DEN/DEN, ADEN, SSE (P.Way) In-charge and sectional SSE/JE (P.Way) will carry out careful visual inspection of the rails supplied under developmental order and record any significant observations.
- viii. Any unusual observation in performance of such rails would be reported by the Railway to RDSO.
- ix. RDSO would analyse the defects noticed during monitoring of rails and suggest improvement in the process of rail manufacturing, if required. Rail manufacturer shall implement the suggestions accordingly which would be further verified by RDSO. Technical assessment of rail manufacturing capability done earlier by RDSO would be valid subject to implementation of the suggestions by the rail manufacturer. RDSO would decide, with the approval of Railway Board, whether Technical assessment of rail manufacturing capability is to be repeated.
- x. Frequency of Feedback to RDSO - Quarterly
- xi. Joint inspection with RDSO - Every six month
- xii. Period of performance monitoring - 25 GMT or one year, whichever is earlier

(To be reckoned from the date when 80% rail of development order(s) is laid in track)

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Annexure-B

- i. The rails would be laid in identified long stretches to facilitate close monitoring and performance for one year.
- ii. Relaxation in frequency provided during test free/reduced frequency period will not be applicable for USFD Testing. USFD testing is to be carried out as per the normal frequency prescribed in USFD Manual, as applicable after test free/reduced frequency period.
- iii. Proper record of defects and performance of rail and weld should be maintained as per the proforma attached i.e. **Annexure-I, II.**
- iv. All rail withdrawals (fracture pieces and IMR) of rail/ weld will be subjected to analysis in M&C lab of RDSO. For analysis, detailed proforma as per Annexure-III & IV of USFD Manual would be submitted.
- v. During the regular trolley/foot inspections, Sr.DEN/DEN, ADEN, SSE (P.Way) In-charge and sectional SSE/JE (P.Way) will carry out careful visual inspection of the rails and record any significant observations.
- vi. Any unusual observation in performance of such rails would be reported by the Railway to RDSO.
- vii. RDSO would analyse the defects noticed during monitoring of rails and suggest improvement in the process of rail manufacturing, if required. Rail manufacturer shall implement the suggestions accordingly which would be further verified by RDSO. Technical assessment of rail manufacturing capability done earlier by RDSO would be valid subject to implementation of the suggestions by the rail manufacturer. RDSO would decide, with the approval of Railway Board, whether Technical assessment of rail manufacturing capability is to be repeated.
- viii. Frequency of Feedback to RDSO - Quarterly
- ix. Period of performance monitoring- One year
(To be reckoned from date when the 80% of initial supply of 25000T is laid in track)

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Annexure-I

WEAR AND CORROSION MEASUREMENT OF UIC 60/60E1 GRADE RAILS

SSE (In charge) ADEN: Division: Railway: Date of inspection
 Yard/Block Section KM: From To UP/DN/ Single Line Annual GMT Quarter 1st/2nd/3rd/4th

Name of manufacturer	Sl. No.	Measurement Location (Km/TP)	Laying date	GMT carried	Degree of curve/ Straight	Rolling mark	Observation								Remarks
							Wear (mm)				Corrosion (mm)				
							Lateral wear		Vertical wear		Depth of corrosion at liner seat		General Corrosion		
							L	R	L	R	L	R	Foot	Web	
	1. 2. 3.														

Note:

1. Measurement Locations to be paint marked and numbered on rail for subsequent periodic measurements.
2. Measurement would be taken on 2 consecutive sleepers.
3. On Straight, measurements to be taken every 500m and on curve at the start, centre and end of curve.

Signature of ADEN

Signature of SSE (In charge)

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Annexure-II

USFD DEFECTS, GAUGE CORNER CRACKING DEFECTS AND SURFACE DEFECTS OF UIC 60/60E1 GRADE RAILS

SSE (In charge) ADEN: Division: Railway: Date of inspection
 Yard/Block Section KM: From To UP/DN/ Single Line Annual GMT Quarter 1st/2nd/3rd/4th

USFD testing and defects							Details of Kidney Defect if any	Detail of fracture		Gauge Corner Cracking		Surface Defect		Remarks
Name of manufacturer	Date of testing	KM: From To	Location of USFD defect KM/TP	Rolling mark	LH/RH	Defect position Head/Web/Foot		No. of Fracture	Fracture codes	No. of patches	Cumulative length	Location	Type of defect and remarks	

Note: 1. Data for USFD of rail and weld would be given separately.
 2. Detailed proforma to be enclosed as per USFD Manual for rail/weld fracture.

Signature of ADEN

Signature of SSE (In charge)

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