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FINAL DRAFT



**Government of India - Ministry of Railways
RESEARCH DESIGNS & STANDARDS
ORGANISATION**

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**SCHEDULE OF TECHNICAL REQUIREMENTS
for
SUPPLY OF TMT REINFORCEMENT BARS TO IR**

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SCHEDULE OF TECHNICAL REQUIREMENTS FOR SUPPLY OF TMT REINFORCEMENT BARS TO IR

A. ELIGIBILITY CRITERIA :

- I. “The vendor, who intends to register as supplier of steel (TMT reinforcement bar) to Indian Railways, should be a primary producer of steel of any capacity, irrespective of process route, starting their operations from iron making, using iron ore, virgin or processed, with necessary refining facilities/ methodology and rolling / processing facilities at a single location or else in multiple locations provided that the entire gamut of iron & steel production, from iron making to finished steel production, is owned by the same company or its subsidiary company(ies) and provided that the iron making capacity is sufficiently matching the steelmaking capacity. Further, downstream units should use material from the upstream units of the same company or its subsidiaries with traceability system”.
- II. Having Annual Production of TMT Reinforcement bars of firm on average of last 36 months (in MT) \geq 50, 000 Metric Tonnes per annum prior to the month of application.
- III. TMT reinforcement bars should comply to IS: 1786 (latest) as well as Para 5.3 of IS: 13920 (latest) for all seismic zones i.e. II, III, IV or V.
- IV. For DRI – EIF process route of steelmaking - Refining facilities such as LRF or any other established technology being used by the firm.

B. REQUIREMENTS:

Vendor, who is fulfilling the eligibility criteria mentioned in ‘A’ above needs to submit following documents along with application:

1. **Quality Assurance Plan (QAP):** covering manufacturing process, quality control measures, internal inspection plan, details of tools and plant, test piece manufacturing facilities, system of maintaining the data of customer complaints/warranty failures & details of testing equipment along with the details of qualification / experience of quality control personnel as per QAP format available on RDSO’s website.
2. Certificates issued by plant manufacturer/ plant consultant stating that firm is producing raw steel from iron ore or processed iron ore and entire infrastructure for producing sponge iron, billet and TMT Reinforcement Bars using iron ore as the basic material at single / multiple locations by the same company or its

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subsidiary companies (with plant address details) with details of installed annual production capacity in terms of sponge iron, billets and TMT Reinforcement Bars. In case of group concern units, firm needs to submit details of shares holdings / common shareholders certified by Chartered accountant.

3. Copy of legible layout plan of steel plants, indicating details of existing facilities.
4. Factory license showing work address and document showing office address.
5. Certificate issued by Plant manufacturer / Plant consultant (with documentary proof of process) establishing process of steel making (such as BF – BOF route / Corex – BOF route / DRI – EAF/EIF route or any other technology) being used at plant as steel producer, manufacturing TMT reinforcement bar using iron ore as basic raw material.
6. Summary of monthly production of Sponge Iron, Billets & TMT Reinforcement Bars carried out in last three or more years and purchase / sale details of sponge iron / pellets & billets (purchased from subsidiary(ies) firms only) for last 36 months certified by Chartered Accountant. Supporting documents including Purchase orders / Sale invoices shall be verified during plant visit.

C. LIST OF PLANT/ MACHINERY AND EQUIPMENTS:

SN	ITEM
A.	Manufacturing facilities / equipments
i.	Blast Furnace / Rotary Kiln (for DRI)/ COREX or any other patented technology
ii.	Electric Arc Furnace / Electric Induction Furnace/ Basic Oxygen Furnace
iii.	Refining facilities for Electric Induction Furnace Route.
iv.	Billet Caster (Continuous Casting Machine)
v.	Re-heating furnace (if applicable)
vi.	Rolling Mill
vii.	Quenching system (Any licensed quenching system)
B.	Testing Facility
i.	Digital Universal Testing Machine with extensometer facility.
ii.	Bend Re-bend facility as per IS: 1786 (Latest)
iii.	Raw Material laboratory : Arrangement for testing C, S, P
iv.	Spectrometer
v.	Other testing facilities as specified in IS:1786 (Latest), IS: 13920 (Latest) & IS: 2830 (Latest)

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D. PROFORMA FOR TECHNICAL CAPABILITY ASSESSMENT/REASSESSMENT FOR MANUFACTURE AND SUPPLY OF TMT REINFORCEMENT BARS {confirming to IS: 1786 (Latest) & Para 5.3 of IS: 13920 (Latest)} TO INDIAN RAILWAYS

NOTE: (i) All details to be filled in by the firm. No para to be left blank.

(ii) All manufacturing and testing facilities to be available in the unit.

(iii) Attach documents separately wherever required.

GENERAL INFORMATION

1. Section - I:

1.1 Name of the firm -----

1.2 Address:

a) Head office: -----

b) Works: -----

c) Distance of Works in Km from the Nearest Railway station. : -----

d) Nearest Railway Station. : -----

e) Distance of Firm's railway siding from nearest railway station (if applicable): _____

f) Source of water intake for firm's work unit: _____

g) Registered trademark of TMT bar: _____

1.3 Factory Area (in Sq.m.)

a) Covered: -----

b) Uncovered: -----

c) Is the factory site in your name or on rental basis?-----

(With supporting documents).

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1.4 (a) Telephone Numbers:

- (i) Head office: -----
(ii) Works' premises. : -----

(b) Telegraphic / Telex address / Fax Nos.:

- (i) Head Office: -----
(ii) Works' premises: -----
(iii) E-mail Address: -----

1.5 Power Availability: (KVA)

- a) General allotted capacity / In – house power generation :-----
b) Name the part / person in whose name the power is:----- Sanctioned and your agreement with the party/person (Support with reasonable documents)

1.6 Name of any other units located in the above premises :-----

1.7 Name & work address of other units / group concerns:_____.

1.8 Man-power management (Attach list separately):

- a) Managerial Staff :-----
b) Shop Floor Engineers / Supervisors. :----- (Their number, names, qualification & service experience)
c) Laboratory in-charge whether full or part time :----- (Indicate his / her name, qualifications & service experience)
d) Inspection & quality control staff :----- (Give their names, qualification & service experience).

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TECHNICAL INFORMATION

2. SECTION- II

2.1 Manufacturing Facilities

(i) Blast Furnace / Rotary Kiln (for DRI)/ KOREX or any other patented technology (Mention Nos. & installed capacity): -----

(ii) Electric Arc Furnace / Electric Induction Furnace/ Basic Oxygen Furnace (Mention Nos. & installed capacity): -----

(iii) Refining facilities for Electric Induction Furnace Route (Mention Nos. & installed capacity):-----

(iv) Billet Caster (Mention Nos. & caster size): -----

(v) Re-heating furnace (if applicable): -----

(vi) Rolling Mill (Mention installed capacity): -----

(vii) Quenching/ cooling system: -----

(viii) Any other production setup such as – Ferro alloys, Pig iron, Structural Steel etc.(Please mention process, involved machinery and installed capacity) – if any: -----

2.2 Testing Facilities:

2.2.1 Raw material testing facility

Chemical Composition Test of Iron ore, Coal, Sponge Iron, Bath Sample etc.

(a) Carbon & Sulphur apparatus with suitable chemicals for analyzing C, S & P elements

(b) Muffle Furnace

(c) Analytical / **Digital** Balance

(d) Other apparatus for the chemical / metallurgical test lab.

Or Through Spectrographic facility

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2.2.2 Finished material testing facility

i) Digital Universal testing Machine **with extensometer facility.**

(a) Capacity: - -----

(b) Make: -----

(c) In-house/ outsource calibration facility: -----

(ii) Bend Re-bend Test Facility: -----

iii) Spectrographic facility for chemical / metallurgical analysis

iv) Any other relevant testing facility specified in IS: 1786 (Latest), **IS: 13920 (Latest)** & IS: 2830 (Latest): -----

2.3 Source of raw material:

(a) Iron Ore lumps / fines : -----

(b) Coal: -----

(c) Limestone / Dolomite: -----

(d) Method of transportation of raw material: _____

2.4 Availability of IS: codes: -----

2.5 Availability of BIS Licenses with validity – TMT Bars grade & dia (IS: 1786) and Billets (IS: 2830).

EXPERIENCE

3. SECTION- III (Attach documents separately):

a) Latest (two years minimum) certificate of approval issued by Central Govt., State Govt., Central / State PSUs & if any.

b) Copy of Certificate of Incorporation & Memorandum of Article of Association of Firm.

c) Purchase / Supply orders completed/ in- hand to Railways, Metro Railways, IRCON & other railway PSUs.

d) Purchase / Supply orders completed/ in- hand in Infrastructure & Road Bridge projects of minimum two years.

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- e) Recent test results of TMT Reinforcement Bars got done by third party from any reputed Govt. /PSU/ Govt. Colleges or NABL accredited laboratory.
- f) Supply experience/ appreciation letters issued by purchasers / users in last two or more years with supporting purchase orders.
- g) Details of In-house testing facility for physical/ chemical tests with their valid calibration certificates and their NABL accreditation.
- h) Copy of production registers showing production of TMT reinforcement bars for various grades & dia. such as Fe500/500D/550/550D/600 (dia. 8 - 40mm).
- i) Documents such as purchase / supply orders, test reports carried out at NABL accredited laboratory etc. which shows production of Low alloy steel / CRS (Corrosion Resistant Steel) TMT Reinforcement bars for sizes 8 mm to 40 mm dia.
- j) ISO 14001 (Latest) : Environment Management System
- k) OHSAS 18001 (Latest) : Health & Safety
- l) Notarized declaration regarding no – use of any kind of external scrap in steel making at firm's premises.
- m) Notarized declaration regarding T & P / M & P installed at firm's premises for steel making.
