



BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

MANUFACTURING QUALITY PLAN : RE-ROLLERS

Manufacturer's Details :-	Customer : BSPTCL	Vendor's Code :	Item : Rolling of angle sections	M.Q.P.No.: 36 Rev. No. : 00 Date: 06.01.16	Valid From: 15-01-16 Valid Up to: till revision
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INSTRUCTIONS FOR CODE ALLOCATION

<p>Code 1 Indicates place where testing is planned to be performed i.e. Inspection location</p> <p>A At Equipment Manufacturer's works (Re-roller)</p> <p>B At Component Manufacturer's works (Billet/Bloom supplier)</p> <p>C At Authorized Distributor's place</p> <p>D At Independent Lab</p> <p>E At Turn Key Contractor's location</p> <p>F Not specified</p>	<p>Code 2 Indicates who has to perform the tests i.e. Testing Agency</p> <p>J The Equipment Manufacturer</p> <p>K The Component Manufacturer</p> <p>L The Third Party</p> <p>M The Turnkey Contractor</p>
<p>Code 3 Indicates who shall witness the tests i.e. Witnessing Agency</p> <p>P Component Manufacturer itself</p> <p>Q Component Manufacturer and Equipment Manufacturer</p> <p>R Component Manufacturer, Equipment Manufacturer and Contractor</p> <p>S Equipment Manufacturer itself</p> <p>T Equipment Manufacturer and Contractor</p> <p>U Equipment Manufacturer, Contractor and BSPTCL</p> <p>V Third Party itself</p>	<p>Code 4 Review of Test Reports/Certificates</p> <p>W By Equipment manufacturer during raw material / bought out component inspection</p> <p>X By Contractor during product/process inspection</p> <p>Y By BSPTCL during product/process inspection</p> <p>Z By Contractor and/or BSPTCL during product/process inspection</p>
<p>Code 5 Whether specific approval of sub-vendor / Component make is envisaged?</p> <p>E Envisaged</p> <p>N Not Envisaged</p>	<p>Code 6 Whether test records required to be submitted after final inspection for issuance of Dispatch Clearances /Instructions ?</p> <p>Y Yes</p> <p>N No</p>



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A. Raw Material Section-

Sr. No.	Components/ Operation & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
A.1	Steel	Chemical	Per lot/heat	IS:2830	As per Annexure-I for different sources and as per agreed chemistry of supplier	Teat report	B	K	P	Y	E	N	Billet/blooms/slab shall be procured from BSPTCL approved sources. Records to be reviewed during final inspection
		Chemical	Each billet/bloom/slab	IS 2830	As per Annexure-I for different sources and as per agreed chemistry of supplier	Spectro Report	A	J	S	Y	-	N	The conforming materials matching to supplier TC shall be taken into rolling only after allotment of batch no with colour coding for HT/ MS for BSPTCL material
		Visual and Dimension	Each billet/bloom/slab	IS 2830	IS 2830	BSPTCL Report	A	J	S	Y	-	N	
B	In-process Inspection-												
a	Roller Verification incl. rollers of straightening machine.	Visual & Dimensional check for root radius and profile	Each shift	Plant Standard	Plant Standard	BSPTCL Report	A	J	S	W	-	N	
b	Furnace temp for individual zone	Visual display	Each hour	Plant Standard	Plant Standard	BSPTCL Report	A	J	S	W	-	N	
c	Surface finish of rolled material and end cutting	Visual check	Each hour	IS 2062	Material to be free from surface defects like laminations, rough/jagged and imperfect edges, cracks, rounded apex, deep roll marks, pipy and any harmful defects	BSPTCL Report	A	J	S	W	-	N	



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Sr. No.	Components/ Operation & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
d	Flange width check	Measurement	Min 5 times or till perfect setting of roller and once/ hour during rolling process	IS 1852/ IS 808	Equal: (i) Up to 45 mm Leg Length ± 1.5 mm (ii) > 45 to 100 mm Leg Length ± 2.0 mm (iii) >100 mm Leg Length ± 2.0 % of leg length Difference between Leg Length of Equal Angles shall be limited to 75 % of Total Tolerance (Plus & Minus) Unequal: tolerance as per IS	BSPTCL Report	A	J	S	W	-	N	
e	Weight/mtr length check	Measurement	Once/hour/section wise	IS 1852 / IS 808	i) Up to 3 mm thick $\pm 5\%$ ii) > 3 mm thick $+ 5\%$, $- 3\%$ over weights specified in IS 808	BSPTCL Report	A	J	S	W	-	N	



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Sr. No.	Components/ Operation & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
f	Out of Squareness	Measurement	Once/hour/section wise	IS 1852	±1°	BSPTCL Report	A	J	S	W	-	N	
g	Camber	Measurement	Once/hour/section wise	IS 1852	(i) For Flange Less than 100 mm Reasonably Straight (ii) For Flange 100 mm & above Max 0.2% of length	BSPTCL Report	A	J	S	W	-	N	
h	Root radius	Measurement	Once/hour/section wise	IS 808	IS 808	BSPTCL Report	A	J	S	W	-	N	
i	Yield stress	Mechanical	2 - Samples for cast/heat/lot size up to 50 MT or part thereof	IS: 2062:2011 Grade E250 A & BSPTCL Specn. IS: 2062:2011 Grade E 350 A & BSPTCL Specn.	i) <20mm thick 250 N/mm ² min ii) 20to40 mm thick 240 N/mm ² Min. iii) >40mm thick 230 N/mm ² min. below 20 mm min 350 N/mm ² 20-40 mm- min 330 N/mm ² above 40 mm min 320 N/mm ²	BSPTCL Report	A	J	S	W	-	N	



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Sr. No.	Components/ Operation & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
j	UTS	Mechanical	2 - Samples for cast/heat/lot size up to 50 MT or part thereof	IS: 2062:2011 Grade E250A BSPTCL Specn. IS: 2062:2011 Grade E350A	410 N/mm ² (Min.) 490 N/mm ² (Min)	BSPTCL Report	A	J	S	W	-	N	
k	Percentage Elongation at $5.65\sqrt{\text{Area}}$	Mechanical	2 - Samples for cast/heat/lot size up to 50 MT or part thereof	IS: 2062:2011 Grade E250A BSPTCL Specn. IS: 2062:2011 Grade E350A	23% Min 22% min.	BSPTCL Report	A	J	S	W	-	N	
l	Bend test	Mechanical	2 - Samples for cast/heat/lot size up to 50 MT or part thereof	IS: 2062:2011 Grade E250 A BSPTCL Specn.	Piece at room temp. shall with stand bending through 180 degree to an internal dia i) not greater 2t for angle thickness less than or equal to 25 mm, ii) 3t for > 25 mm, with both side parallel, without cracking.	BSPTCL Report	A	J	S	W	-	N	
m	Chemical Composition	Chemical Analysis	2 - Samples for cast/heat/lot size up to 50 MT or	As per agreed chemistry of supplier	Test results needs to match test Certificate of respective supplier with	BSPTCL Report	A	J	S	W	-	N	



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			part thereof		tolerances as per IS 2062 :2011 Table 3													
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Sr. No.	Components/ Operation & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
C.	Final Acceptance test												
i	Visual Inspection	Visual	One sample per heat/cast Or one sample per 20 MT / Section or Part Thereof if heat/cast wise not maintained	IS 2062:2006 BSPTCL specn.	Material to be free from surface defects like laminations, rough/jagged and imperfect edges, cracks, rounded apex, deep roll marks, pipe and any harmful defects	Test Report	A	J	U	Z	-	Y	
ii	Dimensional Inspection	Measurement	-do-	IS 808/ IS 1730 / IS 1852 & BSPTCL Specn.	Equal: (i) Up to 45 mm Leg Length ± 1.5 mm (ii) > 45 to 100 mm Leg Length ± 2.0 mm (iii) >100 mm Leg Length ± 2.0 % of leg length Difference between	Test Report	A	J	U	Z	-	Y	



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iii	Root radius	Measurement	-do-	IS 808	Leg Length of Equal Angles shall be limited to 75 % of Total Tolerance (Plus & Minus) Unequal: tolerance as per IS 808	Test Report	A	J	U	W	-	Y
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Sr. No.	Components/ Operation & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
iv	Camber	Measurement	One sample per heat/cast Or one sample per 20 MT / Section or Part Thereof if heat/cast wise not maintained	IS 1852	(i) For Flange Less than 100 mm Reasonably Straight (ii) For Flange 100 mm & above Max 0.2% of length	Test Report	A	J	U	Z	-	Y	
v	Weight Tolerance For Angle Sections	Unit Weight Test	-do-	IS 1852 / IS 808	i) Up to 3 mm thick $\pm 5\%$ ii) > 3 mm thick + 5%, - 3 % over weights specified in IS 808	Test Report	A	J	U	Z	-	Y	
vi	Out of Square ness	Measurement	-do-	IS 1852 BSPTCL Specn.	$\pm 1^\circ$	Test Report	A	J	U	Z	-	Y	
vii	Chemical Analysis	Spectro analysis	2 - Samples for cast/heat size up to 100 MT/Section or part thereof 3 - Samples for cast/heat size between 100-200 MT/section or part thereof. 4 - Samples for cast/heat size over 200 MT/section or part thereof	IS 2830	As per agreed chemistry of supplier mentioned in Annexure I	Test Report	A	J	U	Z	-	Y	



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viii	Yield Stress	Mechanical	Or one sample per 20 MT / Section or Part Thereof if heat/cast wise not maintained -do-	IS: 2062:2011 Grade E250 A & BSPTCL Specn. IS: 2062:2011 Grade E 350 A & BSPTCL Specn.	i) <20mm thick 250 N/mm ² min ii) 20to40 mm thick 240 N/mm ² Min. iii) >40mm thick 230 N/mm ² min. < 20 mm min 350 N/mm ² ,20-40 mm min 330 N/mm ² above 40 mm min 320 N/mm ²	Test Report	A	J	U	Z	-	Y
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Sr. No.	Components/ Operation & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
ix	Ultimate Tensile Strength	Mechanical	2 - Samples for cast/heat size up to 100 MT 3 - Samples for cast /heat size between 100-200 MT 4 - Samples for cast/heat size over 200 MT Or one sample per 20 MT / Section or Part Thereof if heat/cast wise not maintained	IS: 2062:2011 Grade E250 A & BSPTCL Specn. IS: 2062:2011 Grade E 350 A & BSPTCL Specn.	410 N/mm ² (Min.) 490 N/mm ² (Min)	Test Report	A	J	U	Z	-	Y	
x	Percentage Elongation at $5.65\sqrt{\text{Area}}$	Mechanical	-do-	IS: 2062:2011 Grade E 350 A & BSPTCL Specn. IS: 2062:2011 Grade E250 A & BSPTCL Specn.	23% Min. 22% minimum	Test Report	A	J	U	Z	-	Y	



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xi	Bend Test	Mechanical	1 Sample for 50 MT per Section per cast or Part thereof as per IS 2062-2006 Or 1 Sample per 20 MT / Section or Part Thereof if heat/cast wise not maintained	IS: 2062:2011	Piece at room temp. shall with stand bending through 180 degree to an internal dia i) not greater 2t for □ 25 mm, ii) 3t for > 25 mm, with both side parallel, without cracking.	Test Report	A	J	U	Z	-	Y
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**ANNEXURE – I
Chemical Composition**

A) RINL billet/bloom - All values as below are including Tolerance

Element	C18HMn-For HT (E350)	C20 MMn-For MS (E250)
C	0.15- 0.22	0.17- 0.25
Mn	1.1- 1.45	0.6- 1.05
Si	0.10- 0.37	0.10- 0.37
P	0.045 max	0.05 max
S	0.045 max	0.05 max
Cr	0.08 max	0.08 max
Ni	0.03 max	0.03 max
Cu	0.03 max	0.03 max
B	0.004 max	0.004 max
Mo	0.005 max	0.005 max
V	0.025- 0.060	0.005 max
Al	0.015 min	0.015 min
CE	0.45 max	0.28- 0.42

Note: For Blooms size 150x150 mm and above Al and Si shall be read as follows:

**Al- 0.015 max
Si- 0.10 to 0.45**

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B) SAIL (BSP/DSP)- All values as below are including Tolerance

Element	SAIL Tower Grade VI For HT (E350)	C20 MMn-For MS (E250)
C	0.15- 0.22	0.16 -0.25
Mn	1.25- 1.60 for blooms size 350x150mm 1.20-1.60 for other sizes of blooms & billets	0.6-1.05
Si	0.15- 0.30	0.15- 0.30 for DSP 0.10 max for BSP
P	0.047 max	0.047 max
S	0.047 max	0.047 max
S+P	0.090 max	0.090 max
Cr	0.20 max	0.20 max
Ni	0.05 max	0.05 max
Cu	0.10 max	0.10 max
B	0.005 max	0.005 max
Mo	0.05 max	0.05 max
V	0.03 min for blooms of 160 mm and above 0.025 min for billets and blooms upto 150 mm	As per Test Certificate
Nb	Actual, 0.015 min if added alone	-
CE	0.36 -0.45 for BSP & 125x125 mm billet of DSP 0.38-0.47 for DSP billet above 125x125 mm	0.28- 0.42

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C. Jindal :Chemistry of billets (Ladle):

Element	C18 HMn-HT (E350)	C20 MMn-For MS (E250)	C18 MMn-For MS (E250)
C	0.15- 0.20	0.17- 0.23	0.15- 0.21
Mn	1.20- 1.50	0.6-1.0	0.6-1.0
Si	0.15- 0.30	0.10- 0.40	0.10-0.40
P	0.03 max	0.040 max	0.040 max
S	0.03 max	0.040 max	0.040 max
Cr	0.07 max	0.07 max	0.07 max
Al	0.015 min	0.010 min	0.010 min
Ni	0.07 max	0.07 max	0.07 max
Cu	0.10 max	0.10 max	0.10 max
Mo	0.07 max	0.07 max	0.07 max
V	0.030 min	-	-
V+Nb+Ti	≤0.25	≤0.25	≤0.25
CE	0.45 max	0.42 max	0.42 max

Permissible variation in Jindal Chemistry in angles specified max or under min limits-

C-0.02, Mn-0.03, S-0.005, P-0.005

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D. Adhunik Metaliks: Chemistry of billets:

Element	C18 HMn-HT (E350)	C20 MMn-For MS (E250)
C	0.15- 0.20	0.17- 0.23
Mn	1.20- 1.50	0.6-1.0
Si	0.15- 0.30	0.10- 0.40
P	0.04 max	0.04 max
S	0.04 max	0.04 max
Cr	0.06 max	0.06 max
Al	0.020 min	-
Ni	0.08 max	0.08 max
Cu	0.07 max	0.07 max
Mo	0.03 max	0.03 max
V	0.030 min	-
Ti	0.01 max	0.01 max
Sn	0.015 max	0.015 max
CE	0.43 max	0.39 max

Permissible variation in Adhunik Metaliks Chemistry in angles specified max or under min limits-

C-0.02, Mn-0.03, S-0.005, P-0.005, Si-0.03

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E. Jayaswal Neco Industries Ltd Chemistry

Element	C18 HMn-HT (E350)	C20 HMn-HT (E350)	C18 MMn MS (E250)	C20 MMn- MS (E250)
C	0.15- 0.20	0.15- 0.20	0.15- 0.20	0.17- 0.23
Mn	1.20- 1.50	1.20-1.50	0.6-1.0	0.6-1.0
Si	0.15- 0.35	0.15- 0.35	0.15-0.35	0.15-0.35
P	0.035 max	0.035 max	0.035 max	0.035 max
S	0.035 max	0.035 max	0.035 max	0.035 max
V	0.030 min	0.030 min	-	-
Al	0.015 -0.035	0.015 -0.035	0.010-0.035	0.010-0.035
CE	0.38-0.42 max	0.38-0.42 max	0.41 max	0.41 max

Permissible variation in Jayaswal Neco Industries Ltd Chemistry in angles specified max or under min limits-

C- 0.02, Mn- 0.05

Max value of Trace Elements-

Cu- 0.10, Sn- 0.10, Cr- 0.05, Ni- 0.05, Mo- 0.05

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F) Visa Steel Limited : Chemical Composition

Element (%)	C18 HMn-HT (E350)	C20 HMn-HT (E350)	C18 MMn-For MS (E250)	C20 MMn-For MS (E250)
C	0.15 - 0.20	0.17 - 0.20	0.15 - 0.20	0.17 - 0.21
Mn	1.20 - 1.50	1.20 - 1.50	0.60 -1.00	0.60 -1.00
Si	0.15 - 0.35	0.15 - 0.35	0.15 - 0.30	0.15 - 0.30
P	0.035 max	0.035 max	0.035 max	0.035 max
S	0.035 max	0.035 max	0.035 max	0.035 max
Cr	0.05 max	0.05 max	0.05 max	0.05 max
Al	0.020 min	0.020 min	0.025 max	0.025 max
Ni	0.05 max	0.05 max	0.05 max	0.05 max
Cu	0.05 max	0.05 max	0.05 max	0.05 max
Mo	0.05 max	0.05 max	0.05 max	0.05 max
V	0.030 min	0.030 min	-	-
Ti	0.010 max	0.010 max	0.010 max	0.010 max
V+Nb+Ti	0.15 max	0.15 max	0.15 max	0.15 max
CE	0.44 max	0.44 max	0.39 max	0.39 max

Permissible variation in Visa Steel Limited in angles specified max or under min limits-

C - 0.02, Mn - 0.03, S - 0.005, P-0.005, Si – 0.03

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G. Usha Martin Ltd: Chemistry of MS & HT billets excluding tolerance

Element	C18HMn-For HT (E350)	C20 MMn-For MS (E250)	C18 MMn for MS (E250)
C	0.15- 0.20	0.17- 0.23	0.15- 0.21
Mn	1.20- 1.50	0.6- 1.00	0.6- 1.00
Si	0.15- 0.30	0.10-0.40	0.10-0.40
P	0.03 max	0.04 max	0.04 max
S	0.03 max	0.04 max	0.04 max
Cr	0.07 max	0.07 max	0.07 max
Ni	0.10 max	0.07 max	0.07 max
Cu	0.10 max	0.10 max	0.10 max
Al	0.015 min	0.002 min	0.002 min
Mo	0.010 max	0.010 max	0.010 max
V	0.030 min	-	-
V+Nb+Ti	≤0.25	≤0.25	≤0.25
CE	0.45 max	0.42 max	0.42 max

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H.Electrosteel Steels Ltd: Chemistry of MS & HT billets including tolerance

Element	C18HMn-For HT (E350)	C20 MMn-For MS (E250)
C	0.15- 0.22	0.17- 0.25
Mn	1.2- 1.50	0.6- 1.00
Si	0.10- 0.35	0.10- 0.35
P	0.045 max	0.045 max
S	0.045 max	0.045 max
Cr	0.08 max	0.08 max
Ni	0.03 max	0.03 max
Cu	0.03 max	0.03 max
B	0.004 max	0.004 max
Mo	0.005 max	0.005 max
V	0.030- 0.060	0.005 max
CE	0.36 to 0.45	0.28- 0.42

**BIHAR STATE POWER TRANSMISSION COMPANY LIMITED****MANUFACTURING QUALITY PLAN : RE-ROLLERS**

Manufacturer's Details :-	Customer : BSPTCL	Vendor's Code :	Item : Rolling of angle sections	M.Q.P.No.: 36 Rev. No. : 00 Date: 06.01.16	Valid From: 15-01-16 Valid Up to: till revision
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I.Monnet Ispat & Energy Ltd: Chemistry of MS & HT billets including tolerance

Element	C18HMn-For HT (E350)	C20 MMn-For MS (E250)	C18 MMn for MS (E250)
C	0.17- 0.21	0.18- 0.22	0.16- 0.20
Mn	1.20- 1.35	0.6- 0.8	0.6- 0.8
Si	0.15- 0.30	0.15-0.30	0.15-0.30
P	0.03 max	0.04 max	0.04 max
S	0.03 max	0.04 max	0.04 max
Cr	0.05 max	0.05 max	0.05 max
Ni	0.05 max	0.05 max	0.05 max
Cu	0.05 max	0.05 max	0.05 max
Mo	0.05 max	0.05 max	0.05 max
V	0.025 min	-	-
V+Nb+Ti	≤0.15	≤0.15	≤0.15
CE	0.45 max	0.42 max	0.42 max


For Al killed- 0.02% Al is maintained

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NOTES/GENERAL REQUIREMENTS TO BE CHECKED/ENSURED

- 1) The re-roller must have valid BIS license. The re-roller can also supply Flats/Channels to BSPTCL with inspection by BSPTCL provided they have valid BIS license for the same size and grade. The flats & channels should have re-roller's own embossing and shall maintain system & procedure as per this MQP. Dimension tolerances shall be as per IS. All relevant IS standards should be available at re-roller works related to angle sections with latest amendments.
- 2) The angle sections to be rolled with 'BSPTCL-MS' embossing for MS and 'BSPTCL- HT' embossing on HT re-rolled section.
- 3) The re-roller to ensure that the billets/blooms/slabs are procured from BSPTCL approved sources only as per the chemistry mentioned for various sources in this MQP. The re-roller needs to obtain original test certificate and invoice and same shall be verified and signed by BSPTCL inspection engineer during inspection at re-roller works. The consumption records with reference to Dispatch Clearance / Instructions & balance materials (billets/blooms) available shall be maintained on a permanent register with hard cover and to be verified and certified by BSPTCL inspection engineer during each inspection visits.
- 4) If the agency is procuring raw material from other than BSPTCL approved sources for non BSPTCL material, the same should be kept separately in the yard to avoid any mix up i.e. there shall be separate identified yard for raw material for BSPTCL projects. Different colour coding need to be used by the BSPTCL Report fool proof segregation of BSPTCL approved and non BSPTCL approved raw material. Colour coding chart shall be displayed clearly on a large board.
- 5) The re-roller should progressively align their Quality System to the requirements of ISO 9000 series Quality Standards and in due course of time should get their quality system certified to ISO 9001.
- 6) **Calibration:** All the testing equipments (UTM, Impact Testing Machine, Weighing machine, Venire, Measuring tape etc.) must be calibrated by NABL accredited lab and the calibration certificate must be available in the testing lab so that same can be verified by IE, whenever required. Stickers of calibration should be pasted on the test equipment. Further, details of equipment and their calibration due date must be displayed in the lab. Calibration details (equipment name, no., calibration date and due date of the calibration) of testing equipment used during acceptance

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testing must be made part of testing results. These details must be mentioned below the test results. UTM needs to be calibrated in presence of BSPTCL preferably within 3 months from the date of receiving of MQP and in each year subsequently.

- 7) **The re-roller** necessarily shall have a in-house spectrometer. The master sample with provision of all necessary elements (HT & MS) shall be available with proper calibration by NABL accredited labs. The spectrometer shall be calibrated daily at least once by a secondary sample & once in a week by the master sample.
- 8) Rolling register must be updated and maintained with the details of raw material used along with the TC numbers. Lot no to be allocated as per planning sheet of rolling section wise and heat wise and all details like lot no, size, Grade, length and no of pieces to be provided on the Sticker which is to pasted on each bundle with metal strips packing.
- 9) **Traceability:** There should be traceability of material lot wise/ heat wise from raw material to finished stage and all the relevant documents must be maintained by each rolling mill/TLT manufacturer for the same. In case traceability /co-relation is not found, material is liable to be rejected.
- 10) End Cutting of Angles:** The rolled material should be free from any end cutting defects.
- 11) The finished angle sections offered for BSPTCL inspection must be stacked not more that 6 feet height and stored in such a way that it is easily identifiable and accessible for inspection. Size of the angle, length, number of pieces and contractor's name must be mentioned on each bundle. In case, very small quantity is offered for inspection, all the material for each section should be bundled and stored at one place.
- 12) **Inspection by Main Contractor:** All TLT manufacturers /main contractors who have placed order on rolling mills for BSPTCL projects should instruct their Inspection engineers to inspect the material thoroughly before clearing the material for inspection to BSPTCL. **They should sign on each bundle and check that their company's name is on each bundle or provide their own signed sticker with all details incl. call no..** They can use any other method also like pasting sticker etc. so that material is easily



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identifiable. Contractor's IE must countersign on the angle(s) from which they have taken the sample(s) so that the same can be re-checked by BSPTCL, if required. Any section, if found without counter-signature of contractor's IE, it shall be treated as not inspected by contractor. The test reports of contractor inspection engineer and clearance certificate (if test results are in order) are to be made available at re-roller's works.

13) **Offering the Material for Inspection to BSPTCL:** Details of the material being offered for inspection as per the following format :

Call No.	Contractor Name	Grade	Section	LOT No	Length	No of pieces	Total Qty	Source of Raw Material Used (Invoice No & TC No)	Embossing	Sample No. (to be mentioned by BSPTCL IE)

14) After inspection of material by BSPTCL, the re-roller shall submit the inspection summary and test reports immediately to BSPTCL IE to enable the issue of BSPTCL on the same date. All test report should mention minimum/maximum pass values/conforming requirement of the test.

15) Rejections/retests shall be carried out as per IS 2062:2011. In case of any rejection during in-process/final acceptance test, by contractor/BSPTCL, BSPTCL embossing should be grinded off by the re-roller and the same shall be verified by BSPTCL before further disposal.

16) The material cleared by BSPTCL shall be dispatched to TLT at the earliest, however in no case later by one month. Any material inspected one month before cannot be dispatched without revalidation of BSPTCL and same shall be done only after getting approval from BSPTCL for despatch clearance/re-inspection approval. BSPTCL inspection engineer to check despatch register & LR copy for the despatch of quantity, date & previous cleared BSPTCL material irrespective of BSPTCL by any IE.

17) Agencies which are having both rolling mill and TLT shall ensure that material is immediately dispatched to TLT stock yard and they will have separate boundaries for rolling mill finished yard and TLT stockyard for raw material i.e. Rolling Mill finished material stockyard shall not be used as raw material stock yard for TLT.



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18) All re-rollers are strictly instructed not to use BSPTCL embossing for non BSPTCL material and not to sell BSPTCL embossed material as commercial/non-BSPTCL purposes.