	Company name and address	CUSTO		Vendor Co	ode :	Item : Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. I Rev. No. Date: 0	00		7				5.01.2016 I Revision
			Quantum	of Refe	erence				App	licable	Cor	des		
Sr. No.	Components / Operations & Description of Test	Type of Check	Check / Sampling w Basis	ith docur	nent for sting	Acceptance Norms	Format of Record	1	2	3 4	ŀ	5 6	5	Remark
Code 1Indicates place where testing is planned to be performed i.e. Inspection Location.Code 2Indicates who has to perform the tests Testing Agency.AAt Equipment Manufacturer's works BAt Component Manufacturer's works CJThe Equipment Manufacturer KCAt Authorized Distributor's place DLThe Third Party MDAt Independent Lab EMThe Turnkey ContractorEAt Turn Key Contractor's location FNot specified									s i.e.					
Code 3	Indicates who shall witnes	ss the tests i.e.			Code 4	Review of Test re	ports / Cer	tific	ates					
P	Witnessing Agency. Component Manufacture its	self			W X	By Equipment ma By Contractor dur		/ nr	ocess	insnec	atio	n		
Q	Component Manufacturer a		anufacturer		Y	By BSPTCL during								
Ř	Component Manufacturer, Contractor				Z	By Contractor and inspection						proces	ss	
S	Equipment Manufacturer it					-								
T	Equipment Manufacturer a													
U	Equipment Manufacturer,		SPTCL											
U*	Equipment Manufacturer a	and BSPTCL												
V	Third Party itself													
Code 5	Whether specific approval make is envisaged?	of Sub- Vendor	/ Components	5	Code 6	Whether test reco							ectio	1
E	Envisaged				Y	Yes								
N	Not Envisaged				N	No								

NOTES:

- 1. The MQP should be read in conjunction with BSPTCL specification and shall deem to include additional tests if any required as per the contract.
- 2. BSPTCL specification shall include provisions of letter of Award, BSPTCL approved drawings /technical data sheet / BOM / test schedule /test procedure applicable to the specific contract.
- 3. In case of any contradiction between the manufacturer's plant standards, this MQP and BSPTCL specification following precedence shall be followed
- a) BSPTCL Specification.

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	Components / Operations		Quantum of Check /	Reference		Format		App	licat	ole C	odes		
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- b) This Manufacturing Quality Plan.
- c) Manufacturer's Plant Standards.
- 4. It is the responsibility of the manufacturer to ensure that this document is readily available at their works, as well as at the works of their sub vendors in order to avoid delay at the time of inspection.
- 5. The manufacturer shall ensure that their as well as their sub vendors control, metering & testing instruments are duly calibrated and should have calibration certificates traceable to Indian / International standards. Calibration records should be available during inspection by BSPTCL. Key testing instruments will be calibrated only by NABL accredited laboratories.
- 6. In case of any tests being carried out at third party lab, such lab / facility should be NABL accredited / accepted by BSPTCL.
- 7. The manufacturer shall maintain the proper co-relation of test certificates from raw material stage to finished product stage and the records should be available during inspection by BSPTCL.
- 8. Manufacturer shall show the approval of BSPTCL Engineering for all contract specific type tests, including specific type tests if any as per the BSPTCL specification at the time of Final Inspection.
- 9. The packing shall be as per BSPTCL specification and have sufficient to withstand rough handling during transit, storage at site and subsequent handling in the field. All packing cases should be marked with BSPTCL LOA details, name of project, item description and Dispatch Clearance/Instructions number. (By which material has been cleared for dispatch).
- 10. One copy of test report, Dispatch Clearance/Instructions shall also be sent along with consignment.
- 11. All accessories shall be packed in suitable sizes of strong and weather resistant wooden cases/ creates the gross weight of packing shall not normally exceed 200kg to avoid handling problems.
- 12. Inspection of spare items ordered by BSPTCL shall also be governed by the provisions of this MQP. Items if not governed under MQP shall be offered for inspection as per BSPTCL specifications / Relevant-Indian / International Specification.
- 13. Any material rejected during BSPTCL inspection shall be disposed off with approval of BSPTCL. In case the material is to be returned to the components Manufacturer, all such items shall be indelibly marked (to prevent mixing) at the works of the manufacturer and offered to BSPTCL inspection engineer for verification of marking.
- 14. The manufacturer shall align their quality system and that of their sub-vendors to the requirements of latest ISO 9000 quality standards in a time bound manner.
- 15. The list of component manufacturers for which sub-vendor approval is envisaged is enclosed herewith.
- 16. Bolt, Nuts, Washers, cotter pins, security and Split Pins etc. shall be dispatched duly assembled on Hardware fittings.

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	Components / Operations		Quantum of Check /	Reference		Format		App	licat	ole C	odes		
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- 17. A separate CIP to be obtained for all bought out components such as Bolts & nuts, spring washers, security Clips / Split Pins and Rubber components as per respective IS/ MQP.
- 18. All bought out components/ services to be procured from BSPTCL approved vendors as per approved MQP by BSPTCL / Indian/ international Standards.
- 19. Welding jobs are done by qualified welders approved by BSPTCL as per approved welding procedure.
- 20. For 8.8 Grade bolts tyco to ensure that:
- a. All tests are done as per Plan A of IS 1367 Part- III.
- b. MPI Test on 100% quantity if manufacture by hot forging method.
- c. Double shear test on 1% samples. The acceptance value as per the approved drawing based on actual requirement and diameter of the bolt.
- 21. BSPTCL may review the effective implementation of the processes during the product-inspection / process-inspection.

 In case any violation in process or process parameters are observed, the reason along with corrective & preventive measures shall be conveyed to BSPTCL within 2 weeks.
- 22. In case of any contradiction between Technical Specification/Approved Drgs. And MQP, detailed mention in Technical Specification / Approved Drawing shall be final.

EM: Equipment Manufacturer CM: Component Manufacturer TC: Test Certificates

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					Quantum	of	Reference				Ap	plica	ble C	odes		
Sr.	No.	Components / Operation & Description of Test	ту	pe of Check	Check / Sampling w Basis	rith	document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
Α	RAW	MATERIAL INSPECT	ION													
I		INIUM CASTING (Prima		(ot)										Е		
1	Chemi	cal Analysis of Ingot e A 4600 / LM 6)		emical	1Sample/Lot		IS: 617 / BSPTCL Spec.	Within Specified Limits		В	K	P	W		N	
	,	,								A	J	S	/Z		N	
2	Tensile a. UTS	3	Mec	hanical	1Sample/Heat	t	IS:617 / BSPTCL Spec.	Within Specified Limits		A	J	S	W /Z		N	
	b. Elor															
II	ALUM	INIUM ALLOY ROD - 60	061 /	65032 Тур	е	-					7.7	-	***	Е	2.7	
1	Chemi	cal Analysis	Ch	emical	1Sample/Heat, Lot	/	IS: 733/ 739 /ASTM-B-429/Al. Alloy 65032/6061/ BSPTCL Spec.	Within Specified Limits		В	K	P	W W /Z		N	
	Tensile	e Test								В	K	P	W		N	
2	a. UTS		Mec	hanical	1Sample/Heat, Lot	/	IS: 733/ 739 / BSPTCL Spec.	Within Specified Limits		A	J	s	W /Z		N	
III		INIUM EXTRUSION (FL	ATS &	TUBES)- 6	061 /6063/ 60	60/	6201/ 1050/ 6201	Type		11			/2	E	11	
1	1	Inspection		isual	100%		BSPTCL Spec.	BSPTCL Spec.		A	J	S	W /Z		N	
2	Chemi	cal Analysis	Ch	emical	1Sample/Lot/ Heat	5	IS: 733 739/ 5082/ ASTM-B429/ BSPTCL Spec.	Within Specified Limits		В	K	P S	W W /Z		N N	
3	Hardn	ess Test	Ph	ysical	2Samples/Heat Lot	t/ 5	IS: 733 739/ 5082/ ASTM-B429/ BSPTCL Spec.	Within Specified Limits		B A	K J	P S	W W /Z		N N	

		Company name and address		cus	TOMER:		Vendor Code :	Item : Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No Date: 0	. 00		16				: 15.01.2016 Till Revision
		0			Quantum	of	Reference		D		Аp	plica	ble C	odes		
Sr.	No.	Components / Operation & Description of Test	.s Ty	pe of Check	Check / Sampling w Basis	rith	document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
IV	ALUM	IINIUM FORGING (Roun	d Bar)											Е		
1		l Inspection	<u>'</u>	isual	100%		BSPTCL Spec.	BSPTCL Spec.		A	J	S	W /Z		N	
2	Chem	nical Analysis	Ch	emical	1Sample/Lot/ Heat		IS: 733/739/Al. Alloy 6061 BSPTCL Spec.	Within Specified Limits		B A	K J	P S	W W /Z		N N	
3	Heat '	Treatment			100%					В	K	P	W		N	
v		L FORGING (LOW & ME	DIUM	CARBON S	TEEL - CL IV / I	II)	l							Е		
1	Visua	l Inspection	V	isual	100%		BSPTCL Spec.	BSPTCL Spec.		A	J	S	W /Z		N	
2	Chem	nical Analysis	Ch	emical	1Sample/Heat, Lot	/	IS: 1875/2004 BSPTCL Spec. /Apprd. Drg.	Within Specified Limits		B A	K J	P S	W W /Z		N N	
3	Tensi	le Strength	Мес	hanical	2 Samples/Heat/I	Lo	IS: 1875/2004 BSPTCL Spec. /Apprd. Drg.	Within Specified Limits		В	К	Р	W		N	
4	Hardı	ness Test	Ph	ysical	3 Samples/Lot	t	IS: 1875/2004 BSPTCL Spec. /Apprd. Drg.	175BHN-CL-IV / 120BHN-CL-II min.		В	K	Р	W		N	
5	Inclus Grain	sion Rating / Size	Meta	llurgical	1 Sample/Heat Lot	1/	IS: 4163/ IS: 4748	Max. 2 Thick/ Min. 6		B A	K J	P S	W W /Z		N N	
6	Forge	ability			5 Samples/Lot, Heat	/	Mfg. Spec.	No Crack		В	K	P	W		N	
7	Heat '	Treatment			100%			IS 2004		В	K	Р	W		N	
8	Magn Inspe	etic Particle ction	N.	D. T.	100%		IS: 7743/3703 BSPTCL Spec.	No Crack		В	K	Р	W		N	
VI	M. S.	FABRICATION												Е		
1	Visua	l Inspection	V	isual	100%		BSPTCL Spec./IS : 2062	BSPTCL Spec.		A	J	S	W /Z		N	

0				<u>MA</u>	NOFACIORII	NG (QUALITY PLAN	- HARDWARE FIT Item :								
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		Components / Operation	6		Quantum Check /		Reference		Format		Ap	plica	ble C	odes		
Sr.	No.	& Description of Test	Ту	pe of Check	Sampling w Basis		document for testing	Acceptance Norms	of Record	1	2	3	4	5	6	Remark
										В	K	P	W		N	
2	Chem	nical Analysis	Ch	emical	1Sample/Lot/ Heat		IS: 2062/1570 BSPTCL Spec.	Within Specified Limits		A	J	s	W /Z		N	
3	Tensi	le Strength	Mec	hanical	2Samples/Lot/ Heat	/	IS: 2062/1570 BSPTCL Spec.	Within Specified Limits		В	K	Р	w		N	
					Heat		Bol led spee.	Diffico		В	K	P	W		N	
4	Hardı	ness Test	Ph	ysical	5Samples/Lot, Heat	/	IS: 2062 BSPTCL Spec.	120BHN min.		٨	J	s	W /Z		N	
VII	CAST	`IRON / MALLEABLE CA	AST IR	ON /SPHER	ROIDAL GRAPH	ITE	IRON			A	J	3		E	IN	
	0									В	K	P	W		N	
1	Chem	nical Analysis	Ch	emical	1Sample/Lot/ Heat		IS: 210/2108 BSPTCL Spec.	Within Specified Limits		A	J	s	W /Z		N	
2	a. UT	le Test S ongation	Mec	hanical	1Sample/Lot/ Heat	IS	S: 210/2108/1865 BSPTCL Spec.	Within Specified Limits		В	К	Р	W		N	
3		ness Test	Ph	ysical	1Sample/Lot/ Heat	IS	S: 210/2108/1865 BSPTCL Spec.	IS: 210/2108		В	K	Р	W		N	
4	Magn Inspe	etic Particle ction	N.	D. T.	100%		IS: 7743/3703 BSPTCL Spec.	No Crack		В	K	Р	W		N	
VIII	ZINC			•										Ε		
1	Purity	y of Zinc Slab	Ch	emical	1Sample/Lot		IS: 209/ 99.95%min./ BSPTCL Spec.	Within Specified Limits		В	K	P	W		N	
IX	MESS	SENGER CABLE								Α	J	S	/Z	E	N	
1		nical Analysis	Ch	emical	1Sample/Lot/ Heat	I	IS: 1835/ BSPTCL Spec.	Within Specified Limits		В	K	Р	W		N	
2	Dime	nsional Check	Dime	ensional	Each Coil	/	BSPTCL Spec. /Approved Drawing	Within tolerance Limits		В	K	Р	W		N	

			MAI	NUFACTURII	NG (QUALITY PLAN	<u>- HARDWARE FIT</u>	TINGS							
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				Quantum	of	Reference		_		Ap	plica	ble C	odes		
Sr.	No. Components / Operatio & Description of Test		pe of Check	Check / Sampling w Basis	ith	document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
	Tensile Test												1		
3	a. UTS b. Elongation	Med	hanical	2Samples/Lot/ Heat		IS: 2141/ Apprd. Org./ BSPTCL Spec.	Within Specified Limits		В	K	P	W		N	
		T 7	. 1	1000/		DODWOL O	DODTOL O				S	W		D.T.	
4	Visual Inspection	V	isual	100%		BSPTCL Spec.	BSPTCL Spec.		A	J	٥	/Z		N	
5	Dimensional Verification & Lay Ratio Check	Meas	urement	Each Spool		BSPTCL Spec. /Apprd. Drgs.	Within Specified Limits		В	K	P	W		N	
6	Preforming, Postforming of strands	V	isual	100%		BSPTCL Spec.	No spreding of strands when cut.		В	K	P	W		N	
7	Galvanizing Test														
	a. Visual Examination	V	isual	1 %		BSPTCL Spec.	BSPTCL Spec.		В	K	Р	W		N	
	b. Uniformity of Zn coating	Ch	emical	1 %		IS 2633/4826 BSPTCL Spec.	Min. 3&1/2 dips		Б	11	1	VV		11	
	c. Mass of Zinc Coating	Ch	emical	1 %		IS 4826/ BSPTCL Spec.	235 g/m² min. / 33microns		A	J	S	W /Z		N	
	d. Adhesion test			1 %		IS 2629/ BSPTCL Spec.	No Peel Off			J	~	/ =			
X	SECURITY CLIP					<u>.</u>							Е		
1	Visual Inspection	V	isual	100%		IS 2486/IEC 372/ BSPTCL Spec	IS 2486/IEC 372 / BSPTCL Spec		В	K	U*	W /Z		N	
2	Dimensional Verification	Meas	urement	IS 2486		IS 2486/IEC 372/ BSPTCL Spec	Within Specified Limits		В	K	U*	W /Z		N	
3	Resistance To Bending	V	ïsual	IS 2486		IS 2486/IEC 372/ BSPTCL Spec	No Crack		В	K	U*	W /Z		N	
4	Operation / Load Test	Mec	hanical	IS 2486		IS 2486/IEC 372/ BSPTCL Spec	5- 50Kg		В	K	U*	W /Z		N	
5	Hardness Test	Ph	ysical	IS 2486		IS 2486/IEC 372/ BSPTCL Spec	152BHN min.		В	K	U*	W /Z		N	
6	Resistance to Internal Corrosion (Copper & Cu Alloy)			IS 2486		IS 2486/IEC 372/ BSPTCL Spec	IS 2486/IEC 372 / BSPTCL Spec		В	K	U*	W /Z		N	
7	Chemical Analysis	Ch	emical	IS 2486		IS 2486/IEC 372/ BSPTCL Spec	Within Specified limit		В	K	U*	W /Z		N	

_		- HARDWARE FII	111100				1								
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					of	Reference		_		App	plica	ble C	odes		
No.	Components / Operation & Description of Test	rs Ty	pe of Check		rith	document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
	Granular Corrosion	Ch	emical	Once / Order		ASTM – A262 Practice A	ASTM – A262 / No Crack		В	K	U*	W /Z		N	
	PIN				I	Tracace II	Ordon					72	E		
Visual	Inspection	V	isual	100%		IS 549 / BSPTCL Spec	IS 549 / BSPTCL Spec		В	K	Р	W		N	
Dimen	sional Verification	Meas	surement	IS 8563		Spec	Within Specified Limits		В	K	Р	W		N	
Bend 7	Гest	V	isual	IS 8563		IS 549 / BSPTCL Spec	No Crack		В	K	P	W		N	
SPRIN	G WASHER														
Visual	Inspection	V	ïsual	100%		Spec	IS 3063 / BSPTCL Spec		В	K	U*	W /Z		N	
Dimen	sional Verification	Meas	surement	IS 6821	I	IS 3063 / BSPTCL Spec	Within Specified Limits		В	K	U*	W /Z		N	
Twist 7	Гest	V	isual	IS 6821		Spec	No Crack		В	K	U*	W /Z		N	
Perma	nent Set Test	Mec	hanical	IS 6821		Spec	IS 3063 / BSPTCL Spec		В	K	U*	W /Z		N	
Perma	nent Load Test	Mec	hanical	IS 6821		Spec	IS 3063 / BSPTCL Spec		В	K	U*	W /Z		N	
Hardn	ess Test	Ph	nysical	IS 6821		Spec	IS 3063 / BSPTCL Spec		В	K	U*	W /Z		N	
Chemi	cal Analysis	Ch	emical	IS 6821	I	IS 3063 / BSPTCL Spec	Within Specified Limits		В	K	U*	W /Z		N	
Galvar	nizing Test														
Unifor	mity of Zn coating	Ch	emical	IS 6821		IS 2633/ BSPTCL Spec.	IS 3063 / BSPTCL Spec		В	K	U*	W /Z		N	
Mass	of Zinc Coating	Ch	emical	IS 6821		IS 4759/6745/ BSPTCL Spec.	IS 3063 / BSPTCL Spec		В	K	U*	W /Z		N	
RUBBI	ER COMPOUND		•			<u>-</u>							Е	İ	
		Med	hanical	1Sample/Lot		ASTM D 1171/ ASTM D 573/ BSPTCL Spec.	Within Specified Limits		В	K	U*	W /Z		N	
	Inter Corest SPLIT Visual Dimen Bend Corest SPRIN Visual Dimen Twist Corest Perma Hardn Chemi Galvar Unifor Mass Corest RUBBI	No. Components / Operation & Description of Test Inter Granular Corrosion	Inter Granular Corrosion & Description of Test Inter Granular Corrosion Chast SPLIT PIN Visual Inspection Bend Test Visual Inspection Visual Inspection Bend Test Visual Inspection Visual Inspect	Inter Granular Corrosion Test SPLIT PIN Visual Inspection Bend Test Visual Dimensional Verification Bend Test Visual Dimensional Verification Weasurement Bend Test Visual Dimensional Verification Weasurement Visual Dimensional Verification Measurement Visual Dimensional Verification Measurement Twist Test Visual Permanent Set Test Mechanical Permanent Load Test Mechanical Hardness Test Physical Chemical Analysis Chemical Galvanizing Test Uniformity of Zn coating Mass of Zinc Coating Chemical RUBBER COMPOUND Tensile Test Mechanical	Address BSPTCL No. Components / Operations & Description of Test Test Test Visual Inspection Measurement IS 6821 Permanent Set Test Mechanical IS 6821 Chemical Analysis Chemical IS 6821 Chemical Test Mechanical IS 6821 Chemical Once / Order Measurement IS 8563 Chemical IS 6821 Chemical Set IS 6821 Chemical Analysis Chemical IS 6821 Chemical Analysis Chemical IS 6821 Chemical Coating Chemical IS 6821 RUBBER COMPOUND Tensile Test Mechanical IS 6821 Rubber Compound	Address BSPTCL No. Components / Operations & Description of Test Inter Granular Corrosion Test SPLIT PIN Visual Inspection Visual 100% Dimensional Verification Measurement IS 8563 SPRING WASHER Visual Inspection Visual 100% Dimensional Verification Measurement IS 6821 Twist Test Visual IS 6821 Permanent Set Test Mechanical IS 6821 Permanent Load Test Mechanical IS 6821 Hardness Test Physical IS 6821 Chemical Analysis Chemical IS 6821 Galvanizing Test Uniformity of Zn coating Chemical IS 6821 RUBBER COMPOUND Tensile Test Mechanical IS 6821 RUSAMPICAL IS 6821 RUS	Reference document for testing Check / Sampling with Basis Reference document for testing	Conductor & Earthwire Accessories No. Components / Operations & Description of Test Inter Granular Corrosion Test Chemical Once / Order Practice A Spec / BSPTCL Spec / BSPTCL Spec / BSPTCL Spe	Company name and address Customer: BSPTCL Conductor & Conductor & Conductor & Conductor & Conductor & Check / Sampling with Basis Reference document for testing Acceptance Norms of Record	Company name and address Customer: BSPTCL Components / Operations & Date: Operation	Company name and address	Company name and address	Company name and address Customer: BSPTCL Substituting Conductor & Earthwire Rev. No. 00 Date: 05.01.2016 Vasconductor & Earthwire Rev. No. 00 Date: 05.01.2016 Date: 05.01.2016	Company name and address	Company name and address Customer Septended Septended Customer Septended Septended

		Company name and address		cust	OMER : PTCL	•	Vendor Code :	- HARDWARE FIT Item: Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No Date: 0	. 00		.6				: 15.01.2016 Till Revision
		Components / Operation			Quantum		Reference		D		Ap	plica	ble C	odes		
Sr.	No.	& Description of Test	S Ty	pe of Check	Check / Sampling w Basis		document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
2		ation Test e & after Aging)	Mec	hanical	1Sample/Lot		ASTM D 1171/ ASTM D 573/ BSPTCL Spec.	Within Specified Limits		В	K	U*	W /Z		N	
3		Hardness Test e & after Aging)	Ph	ysical	1Sample/Lot		ASTM D 1171/ ASTM D 573/ BSPTCL Spec.	65 – 80 Shore A		В	K	U*	W /Z		N	
4	Aging	Test	Ph	ysical	1Sample/Lot		ASTM D 1171/ ASTM D 573/ BSPTCL Spec.			В	K	U*	W /Z		N	
XIV	ELAS'	TOMER BUSH												E		
1	Tensil	e Test	Mec	hanical	1Sample/Lot		ASTM 412 C/ BSPTCL Spec.	Within Specified Limits		В	K	P	W		N	
2	Elong	ation Test	Mec	hanical	1Sample/Lot		ASTM 412 C/ BSPTCL Spec.	Within Specified Limits		В	K	P	W		N	
3	Shore	Hardness Test	Ph	ysical	1Sample/Lot		ASTM D 2240/ BSPTCL Spec.	55 ± 5 Shore A		В	K	P	W		N	
XV	BELL	EVILLE WASHER						_						E		
1	Visua	l Inspection	V	isual	100%		DAMP Spec.	DAMP Spec.		A	J	S	W /Z		N	
2		nsional Verification	Meas	urement	1%		DAMP Spec.	Within Specified Limits		A	J	S	W /Z		N	
3	Exteri Diame	nal & Internal eter	Meas	urement	1%		DAMP Spec.	Within Specified Limits		A	J	S	W /Z		N	
4	Thick	ness Control	Meas	urement	1%		DAMP Spec.	Within Specified Limits		A	J	S	W /Z		N	
5	_	t Control	Meas	urement	1%		DAMP Spec.	Within Specified Limits		A	J	S	W /Z		N	
6		cation of Force to ning & height ery	Meas	urement	1%		DAMP Spec.	Within Specified Limits		A	J	S	W /Z		N	
7	Chem	ical Analysis	Ch	emical	1Sample/Lot		DAMP Spec.	Within Specified Limits		В	K	P	W		N	
8	Galva	nizing Test														
	Unifor	rmity of Zn coating	Ch	emical	1%		DAMP Spec.	DAMP Spec.		A	J	S	W /Z		N	

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Sr. No.	Components / Operations & Description of Test	Type of Che	Quantum Check / Sampling v Basis		Reference document for testing	Acceptance Norms	Format of Record	1	App 2	lical 3	ole C	odes 5	6	Remark
Mas	ss of Zinc Coating	Chemical	1%		DAMP Spec.	DAMP Spec.		A	J	S	W /Z		N	

XVI	BOLT & NUT									Е		
1	Visual Inspection	Visual	100%	IS 3063 / BSPTCL Spec	IS 3063 / BSPTCL Spec	В	K	U*	W /Z		N	
2	Dimensional Verification	Measurement	IS 2614	IS 2614	Within Specified Limits	В	K	U*	W /Z		N	
3	Tensile Test a. Tensile Strength b. Yield Strength c. Elongation	Mechanical	1Sample/Size/ Heat	IS: 1367 (Part III)	Within Specified Limits	В	K	U*	W /Z		N	
4	Hardness Test	Physical	IS 2614	IS 1367 (Part III) –Bolt / IS 1367 (Part VI)- Nut	Within Specified Limits	В	K	U*	W /Z		N	
5	Impact Test	Mechanical	1Sample/Size	IS: 1367 (Part III)	Within Specified Limits	В	K	U*	W /Z		N	
6	Proof Load Test - Nut	Mechanical	1Sample/Size/ Heat	IS: 1367 (Part VI)	Within Specified Limits	В	K	U*	W /Z		N	
7	Chemical Analysis	Chemical	1Sample/Lot	IS 1367 (Part III) -Bolt / IS 1367 (Part VI)- Nut	Within Specified Limits	В	K	U*	W /Z		N	
8	Galvanizing Test											
	Uniformity of Zn coating	Chemical	10Samples/Lot /Size	IS 2633/ BSPTCL Spec.	Min. 4dips	В	K	U*	W /Z		N	
	Mass of Zinc Coating	Chemical	10Samples/Lot /Size	IS 4759/6745/ BSPTCL Spec.	305g/m² min. / 43microns	В	K	U*	W /Z		N	

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	Components / Operations		Quantum of Check /	f Reference		Format		App	olicat	ole C	odes		
Sr. No.	& Description of Test	Type of Check	Sampling wit	th document for testing	Acceptance Norms	of Record	1	2	3	4	5	6	Remark

В	INPROCESS INSPECTION	N										
I	ALUMINIUM CASTINGS											
1	Visual Inspection	Visual	100%	BSPTCL Spec.	BSPTCL Spec.		Α	J ;	S	W	N	
2	D. P. Test	N.D.T.	1%	Approved Drgs.	No Cracks		Α	J ;	S	W	N	
3	Check for Blow Holes	Visual	1 %	BSPTCL Spec.	No Holes		Α	J ;	S	W	N	
II	ALUMINIUM ALLOY ROD /	P. A. ROD / RETA	INING ROD - 6061	/ 65032 Type								
1	Visual Inspection	Visual	100%	BSPTCL Spec.	BSPTCL Spec.		Α	J ;	S	W	N	
2	Surface Finish & Center Marking	Measurement	100%	BSPTCL Spec. /Apprd. Drgs. / IS 2121	Within Specified Limits		A	J :	S	w	N	
3	Tensile Strength Test	Mechanical	1Sample/Lot/ Heat	Approved Drgs. / IS 2121	Min. 35kg/mm²		A	J ;	S	W	N	
4	Conductivity Test	Electrical	1Sample/Lot/ Heat	Approved Drgs. / IS 2121	Min. 40% of IACS		A	J ;	S	W	N	
5	Resilience Test	Visual	1Sample/Lot/ Heat	Approved Drgs. / IS 2121	No Deformation		A	J ;	S	W	N	
6	Bend Test	Visual	1Sample/Lot/ Heat	Approved Drgs. / IS 2121	No Crack		A	J ;	S	W	N	
III	ALUMINIUM EXTRUSION (I	FLATS & TUBES)-	6061 /6063/ 6060/	6201/ 1050/ 620	1 Туре							
1	Visual Inspection	Visual	100%	BSPTCL Spec.	BSPTCL Spec.		A .	J ;	S	W	N	
2	Dimensional Verification	Measurement	3%	BSPTCL Spec. /Apprd. Drgs.	Within Specified Limits		A	J ;	S	W	N	
3	D. P. Test (Welded Joints)	N.D.T.	2%	BSPTCL Spec. /Apprd. Drgs.	No Cracks		A	J ;	S	w	N	
IV	ALUMINIUM FORGING	_										
1	Visual Inspection	Visual	100%	BSPTCL Spec.	BSPTCL Spec.		A	J :	S	w	N	
2	Dimensional Verification	Measurement	5%	Approved Drgs. / IS 733/ Al. Alloy 6061	Within Specified Limits		A	J ;	S	W	N	
V	STEEL FORGING (LOW & M	EDIUM CARBON S	STEEL - CL IV / II)									
1	Visual Inspection	Visual	100%	BSPTCL Spec.	BSPTCL Spec.		A (J ;	S	W	N	

				<u>MA</u>	NUFACTURE	NG	QUALITY PLAN	<u>- HARDWARE FIT</u>	TINGS							
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					Quantum		Reference		_		Ap	plical	ble C	odes		
Sr.	No.	Components / Operation & Description of Test	s Ту	pe of Check	Check / Sampling w Basis		document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
2		sional Verification	Meası	urement	10%		Approved Drgs.	Within Specified Limits		A	J	S	W		N	
3	Tensile a. UTS		Mecl	hanical	1% 100%		IS: 1608/2004 BSPTCL Spec. /Apprd. Drg.	Within Specified Limits		A	J	S	w		N	
4		nizing Test			10070											
		l Concentration	Che	emical	Once in a Day	7	IS 2629/ BSPTCL Spec.	Within specified limit		A	J	s	W		N	
	b. Pick	kling Time			Once in a Day	7	IS 2629/ BSPTCL Spec.	10 – 25min.		A	J	S	W		N	
	c. Tem	p. of Bath			2Batches/Day	7	IS 2629/ BSPTCL Spec.	450°C ± 10		A	J	S	W		N	
	d. Dip	ping Time			2Batches/Day	7	IS 2629/ BSPTCL Spec.	180Sec. Min.		A	J	S	W		N	
	e. Puri	ty of Zn in Bath	Che	emical	Once in a Mont	th	98.5% min./IS 209/ BSPTCL Specification	Within specified limit		A	J	s	W		N	
	f. Visu	al Examination	Vi	sual	1%		BSPTCL Spec.	BSPTCL Spec.		A	J	S	W		N	
	g. Unif	formity of Zn coating	Che	emical	1%		IS 2633/ BSPTCL Spec.	Min. 6dips		A	J	S	W		N	
	h. Mas	ss of Zinc Coating	Che	emical	1%		IS 4759/6745/ BSPTCL Spec.	610g/m² min. / 86microns		A	J	S	W		N	
	i. Adh	esion test			1%		IS 2629/ BSPTCL Spec.	No Peel Off		A	J	S	W		N	
VI	M. S.	FABRICATION					.						•	•		
1	Visual	Inspection	Vi	sual	100%		BSPTCL Spec.	BSPTCL Spec.		A	J	S	W		N	
2	Dimen	sional Verification	Measi	urement	10%		BSPTCL Spec. /Apprd. Drgs.	Within Specified Limits		A	J	S	W		N	
3	MPI Te	est on Steel Sleeve	N.	D. T.	100%		BSPTCL Spec. /IS 7743/3703	No Crack		A	J	S	W		N	
4		est on Welded Joint	N.	D. T.	10%		BSPTCL Spec. /Apprd. Drwg.	No Crack		A	J	S	W		N	
5	Magna Plates	Flux Test for Yoke	Ph	ysical	3Samples/Lot, Heat	/	IS: 7743	No Crack		A	J	S	W		N	

Sr.		Company name and address mponents / Operations & Description of Test	Ту	cusi	Quantum Check / Sampling w	of	Vendor Code : Reference document for testing	Item: Hardware Fittings, Conductor & Earthwire Accessories Acceptance Norms	M.Q. P. Rev. No Date: 0	. 00	.201		Va	_	: 15.01.2016 Till Revision
					Basis		testing								
6	Galvaniz	zing Test													
	a. Acid C	Concentration	Ch	emical	Once in a Day	7	IS 2629/ BSPTCL Spec.	Within specified limit		A	J	S	W	N	
	b. Picklin	ng Time			Once in a Day	7	IS 2629/ BSPTCL Spec.	10 – 25min.		A	J	S	W	N	
	c. Temp.	of Bath			2Batches/Day	y	IS 2629/ BSPTCL Spec.	450°C ± 10		A	J	S	W	N	
	d. Dippir	ng Time			2Batches/Day	y	IS 2629/ BSPTCL Spec.	180Sec. Min.		A	J	S	W	N	
	e. Purity	of Zn in Bath	Ch	emical	Once in a Mon	th	98.5% min./IS 209/ BSPTCL Specification	Within specified limit		A	J	S	W	N	
	f. Visual	Examination	V	isual	1%		BSPTCL Spec.	BSPTCL Spec.		A	J	S	W	N	
	g. Unifor	mity of Zn coating	Ch	emical	1%		IS 2633/ BSPTCL Spec.	Min. 6dips		A	J	S	W	N	
	h. Mass	of Zinc Coating	Ch	emical	1%		IS 4759/6745/ BSPTCL Spec.	610g/m² min. / 86microns		A	J	S	W	N	
	i. Adhesi				1%		IS 2629/ BSPTCL Spec.	No Peel Off		A	J	S	W	N	
VII	CAST IR	ON / MALLEABLE CA	ST IF	ON / SPHE	ROIDAL GRAP	HITE	IRON						•		
1	Visual In	nspection	V	isual	100%		BSPTCL Spec.	BSPTCL Spec.		A	J	S	W	N	
2	Dimensi	onal Verification	Meas	urement	5%		BSPTCL Spec. /Apprd. Drwg.	Within Specified Limits		A	J	S	W	N	
3	Galvaniz	zing Test													
	a. Acid C	Concentration	Ch	emical	Once in a Day	7	IS 2629/ BSPTCL Spec.	Within specified limit		A	J	S	W	N	
	b. Picklii	ng Time			Once in a Day	7	IS 2629/ BSPTCL Spec.	10 – 25min.		A	J	S	W	N	
	c. Temp.	of Bath			2Batches/Day	7	IS 2629/ BSPTCL Spec.	450°C ± 10		A	J	S	W	N	
	d. Dippir	ng Time			2Batches/Day	y	IS 2629/ BSPTCL Spec.	180Sec. Min.		A	J	S	W	N	

)	Company name and address			TOMER : SPTCL	۲	Vendor Code :	Item : Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No Date: 0	. 00		.6			-	: 15.01.2016 Till Revision
		components / Operations			Quantum Check /		Reference		Format		Apj	olica	ble C	odes		
Sr. N	No.	& Description of Test	Тур	pe of Checl	Sampling w Basis		document for testing	Acceptance Norms	of Record	1	2	3	4	5	6	Remark
	e. Purit	ty of Zn in Bath	Che	emical	Once in a Mont	th	98.5% min./IS 209/ BSPTCL Specification	Within specified limit		A	J	S	W		N	
	f. Visua	al Examination	Vi	sual	1%		BSPTCL Spec.	BSPTCL Spec.		Α	J	S	W		N	
	g. Unifo	ormity of Zn coating	Che	emical	1%		IS 2633/ BSPTCL Spec.	Min. 6dips		A	J	S	W		N	
	h. Mas	s of Zinc Coating	Che	emical	1%		IS 4759/6745/ BSPTCL Spec.	610g/m² min. / 86microns		A	J	S	W		N	
	i. Adhe	esion test			1%		IS 2629/ BSPTCL Spec.	No Peel Off		A	J	S	W		N	

С	FINAL INSPECTION										
	HARDWARE FITTING, CONI	DUCTOR AND EAR	THWIRE ACCESSO	RIES							
1	Visual Inspection	Visual	100%	Relevant IS / BSPTCL Spec.	BSPTCL Spec.	A	J	S	Z	N	
2	Dimensional Verification & Gauge Check	Measurement	5Samples/Lot	App. Drg./ BSPTCL Spec.	Within Specified Limits	A	J	s	Z	N	
3	Galvanizing Test										
	Visual Examination	Visual	100%	BSPTCL Spec.	BSPTCL Spec.	Α	J	S	Z	N	
	Uniformity of Zn Coating	Chemical	2Samples/Lot	IS 2633/4826 BSPTCL Spec.	Min. 6dips	A	J	S	Z	N	
	Wt. Of Zinc Coating	Chemical	2Samples/Lot	IS 4759/6745/ BSPTCL Spec.	610g/m² min. / 86microns	A	J	S	Z	N	
	Adhesion Test	Chemical	2Samples/Lot	IS 2629/ BSPTCL Spec.	No Peel Off	A	J	s	Z	N	

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					Quantum		Reference				Ap	plica	ble C	odes		
Sr.	No.	Components / Operation & Description of Test	.s Ty	pe of Check	Check / Sampling w Basis		document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
4		nanical Strength Test elded Joints	Med	chanical	5Samples/Lot	t	BSPTCL Spec. Apprd. Drwg.	20KN Min. / Apprd. Drwg.		A	J	s	Z		N	
5		on forged items after ping of galvanizing)	N.	D. T.	5Samples/Lot	į	IS 7743/ 3703/ BSPTCL spec.	No Crack		A	J	s	Z		N	
6	D.P.	Test on Welded Joints	N.	D. T.	5Samples/Lot		BSPTCL spec.	No Crack		A	J	s	Z		N	
7	for A Forgi		N.	D. T.	5Samples/Lot		BSPTCL spec.	No Crack/ No Holes		A	J	S	Z		N	
8	(Forgi	ical Analysis ng, Casting, Accessories c Copper Bond)	Ch	emical	1Sample/ Typ	e	Relevant IS / BSPTCL Spec.	Within Specified Limits		A	J	S	Z		N	
9	Meta	llurgical Test			1Sample/ Typ	e	BSPTCL Spec. IS 4163/4748/ 2853			A	J	s	Z		N	
	a. Gr	rain Size	Meta	llurgical				Min. 6								
	b. In	clusion Rating	Meta	ıllurgical				Max. 2 Thick								
	c. Gr	ain Flow	Meta	ıllurgical				Uniform/Grain flow typical of forging								
		ardness		nysical				Min. 175BHN- Cl-IV Min. 120BHN- Cl-II								
I		SION AND SUSPENSION	HARD	WARE FITT	ING											
1	indiv (Exce Horn	,	Med	hanical	2Samples/Lot	ŧ.	Apprd. Drwg./ BSPTCL Spec.	Withstand Specified Load/ Apprd. Drwg.		A	J	S	Z		N	
2		anical Test on C.C. & Arcing Horn	Med	hanical	1Sample/Lot	E	BS 3288/ IS 2486 / BSPTCL Spec.	1.5KN / Apprd. Drwg.		A	J	s	Z		N	
3		on Locking Devices	Med	hanical	5Samples/Lot		IS 2486 /IEC 372	IEC 372/BSPTCL Spec. /5-50Kgs		A	J	s	Z		N	
4		e Hardness Test for comer	Ph	nysical	5Samples/Lot		BSPTCL Spec.	65 – 80 Shore A		A	J	s	Z		N	

				<u>MA</u>	NUFACTURE	NG	QUALITY PLAN	- HARDWARE FIT	TINGS							
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					Quantum		Reference				Ap	plica	ble C	odes		
Sr.	No.	Components / Operation & Description of Test	ns Ty	ype of Check	Check / Sampling w Basis		document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
5	Bend	Test for P A Rod			2Samples/Lot	t	BSPTCL Spec. / IS 2121	No Deformation		A	J	S	Z		N	
6		ience Test for P A Rod			2Samples/Lot	t	BSPTCL Spec. / IS 2121	No Loosening.		A	J	s	Z		N	
7	Cond Rod	luctivity Test for P A	Ele	ectrical	2Samples/Lot	t	BSPTCL Spec. / IS 2121	40% of IACS min.		A	J	S	Z		N	
8		of P A Rod	Med	chanical	2Samples/Lot	t	BSPTCL Spec. / IS 2121	Min. 35Kg/mm²		A	J	S	Z		N	
9	Lay c Test	check of PA Rod / Pitch	Meas	surement	2Samples/Lot	t		Right Hand		A	J	S	Z		N	
10		ip Slip Strength Test Vs ue Test	Med	chanical	2Samples/Lot	t	BSPTCL Spec. / IS 2121/2486	Apprd. Drwg.		A	J	S	Z		N	
11		Strength Test for Dead Assembly	Med	chanical	1Sample/Lot		BSPTCL Spec. / IS 2121/2486	Apprd. Drwg./95% UTS of cond.		A	J	S	Z		N	
II	CON	DUCTOR & EARTHW	RE A	CCESSORII	ES	•						•	•			
i	VIBR	ATION DAMPER														
1		ication of Resonance Jency	Med	chanical	5Samples / Lo	ot :	IS 9708 / BSPTCL Spec.	BSPTCL Spec. / Apprd. Drwg.		A	J	s	Z		N	
2	Clam	p Slip Test	Med	chanical	5Samples / Lo	ot	IS 9708 / BSPTCL Spec.	BSPTCL Spec. / Apprd. Drwg. / 2.5 KN - 5 KN		A	J	s	Z		N	
3	Clam	p Bolt Torque Test	Med	chanical	5Samples / Lo	ot ,	BSPTCL Spec. / IS 9708. 150% of Specified Torque	No Damage / Failure to Damper Component / Conductor or E/W.		A	J	S	z		N	
4	UTS	of Messenger Cable	Med	chanical	5Samples / Lo	ot	BSPTCL Spec. / IS 9708.	135 Kg/mm2 Min.		A	J	s	Z		N	
5	Mass	Pull Off Test	Med	chanical	5Samples / Lo	ot	BSPTCL Spec. / IS 9708.	Apprd. Drwg.		A	J	s	Z		N	

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	(Components / Operations			Quantum Check /		Reference		Format		Ap	plica	ble C	odes	1	
Sr.	No.	& Description of Test	Ту	pe of Check	Sampling w Basis		document for testing	Acceptance Norms	of Record	1	2	3	4	5	6	Remark
6		atio / No of strands	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / Apprd. Drwg.	Apprd. Drwg.		A	J	S	Z		N	
7	Dynan Test	mic Characteristics	Vib	oration	1Sample/ Lot		IS 9708 / BSPTCL Spec.	BSPTCL Spec.		A	J	S	Z		N	
ii	FLEX	IBLE COPPER BOND		Į					<u>l</u>			ı	1			
1	Flexib	ility test	V	isual	2Samples / Lo	ot	BSPTCL Spec.	BSPTCL Spec		A	J	s	Z		N	
2	Strand Check	d & Stranding ring	V	isual	1Sample / Lo	t	BSPTCL Spec.	259 wires of 0.417 mm Dia., 7 stranded ropes each of 37 bunched wires		A	J	S	Z		N	
3	Slip St	trength Test	Mec	hanical	2Samples / Lo	ot	BSPTCL Spec. / Apprd. Drwg.	3 KN Min.		A	J	s	Z		N	
4	Resist	ance Test	Ele	ectrical	2Samples / Lo	ot	BSPTCL Spec. / Apprd. Drwg.	0.00140Ohm Max.		A	J	S	Z		N	
iii	SUSPI	ENSION / TENSION CLA	MP F	OR EARTHV	VIRE			1				ı				
1	on eac	anical Strength Test ch component ling Tension Clamp	Mec	hanical	2Samples / Lo	ot	BSPTCL Spec. / Apprd. Drwg.	Withstand Specified Load/ Apprd. Drwg.		A	J	S	Z		N	
2		trength Test of on Clamp	Mec	hanical	2Samples / Lo	ot	BSPTCL Spec. / IS 2121	Apprd. Drwg./95% UTS of E/W.		A	J	S	Z		N	
3		trength Test on ension Clamp	Mec	hanical	2Samples / Lo	ot	BSPTCL Spec. / Apprd. Drwg.	Apprd. Drwg. / 12 to 17 KN		A	J	S	Z		N	
4		ing Strength Test on ension Clamp	Mec	hanical	2Samples / Lo	ot	BSPTCL Spec. / Apprd. Drwg.	Apprd. Drwg./25KN Min.		A	J	S	Z		N	
5	Hardn Sleeve	ness Test on Steel	Ph	ysical	2Samples / Lo	ot	BSPTCL Spec. / IS2121	120 to 160BHN		A	J	S	Z		N	

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		0			Quantum		Reference		D		Ap	plica	ble C	odes		
Sr.	No.	Components / Operations & Description of Test	Ту	pe of Check	Check / Sampling v Basis		document for testing	Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
iv	MIDS	PAN COMPRESSION JOI	NT /	REPAIR SLI	EEVE / T-CONI	NEC'	ror									
1		ness Test on Steel		nysical	2Samples / Lo		BSPTCL Spec. / IS 2121	120 to 160BHN.		A	J	s	Z		N	
2		Strength Test On oan Compression Joint	Med	hanical	1Sample / Lo	t	BSPTCL Spec. / IS 2121	Apprd. Drwg./ Min. 95% UTS of Cond. or E/W.		A	J	s	Z		N	
3	Axial conne	Tensile Load Test on T	Mec	hanical	1Sample / Lo	t	BSPTCL Spec. / IS 2121	Min. 30 KN		A	J	s	Z		N	
v	RIGII	O SPACER		<u>'</u>				1			ı			1		
1	Comp Test	pression & Tension	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	s	Z		N	
2	Clam	p Slip Test	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	2.5 KN – 5 KN / Apprd. Drwg.		A	J	S	Z		N	
3	Clam	p Bolt Torque Test	Med	chanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	150 % of Specified Torque. / Apprd. Drg.		A	J	s	Z		N	
4	Assen	nbly Torque Test	Med	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	Apprd. Drwg.		A	J	s	Z		N	
vi	BUND	DLE SPACER		•												
1	Comp Test	pression & Tension	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	s	Z		N	
2	Move	ment Test	Med	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	s	Z		N	
3		e Hardness Test per Compound)	Ph	nysical	5Samples / Lo	ot	BSPTCL Spec.	65 – 80 Shore A		A	J	S	Z		N	
4		of Retaining Rod	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 2121	Min. 35Kg/mm²		A	J	S	Z		N	
5		uctivity Test for ning Rod	Ele	ectrical	5Samples / Lo	ot	BSPTCL Spec. / IS 2121	40% of IACS min.		A	J	S	Z		N	
6	Clam	p Slip Test	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	2.5 KN – 5 KN. / Apprd. Drwg.		A	J	s	Z		N	

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		Company name and address			OMER : PTCL		Vendor Code :	Item : Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No Date: 0	. 00		.6			_	: 15.01.2016 : Till Revision
	C	omponents / Operations			Quantum Check /		Reference		Format		Ap	plica	ble C	odes		
Sr.	No.	& Description of Test	Ту	rpe of Check	Sampling w Basis		document for testing	Acceptance Norms	of Record	1	2	3	4	5	6	Remark
vii	SPACE	R DAMPER														
1	Compre Test	ession & Tension	Mecl	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	S	Z		N	
2	Moveme	ent Test	Mecl	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	S	Z		N	
3		Hardness Test r Compound)	Ph	ysical	5Samples / Lo	ot	BSPTCL Spec. / Apprd. Drwg.	55 ± 5 Shore A		A	J	s	Z		N	
6	Clamp S	Slip Test	Mecl	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	2.5 KN – 5 KN. / Apprd. Drwg.		A	J	s	Z		N	
3	Clamp I	Bolt Torque Test	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	150 % of Specified Torque. / Apprd. Drg.		A	J	S	Z		N	
4	Assemb	oly Torque Test	Mec	hanical	5Samples / Lo	ot	BSPTCL Spec. / IS 10162	Apprd. Drwg. / 40 N-M		A	J	s	Z		N	

D	ACCEPTANCE TESTING										
	HARDWARE FITTING, CONI	DUCTOR AND EAR	THWIRE ACCESSO	RIES							
1	Visual Inspection	Visual	1% of offered Lot	Relevant IS / BSPTCL Spec.	BSPTCL Spec.	A	J	U	W/Z	Y	
2	Dimensional Verification & Gauge Check	Measurement	1% of offered Lot	App. Drg./ BSPTCL Spec.	Within Specified Limits	A	J	U	W/Z	Y	
3	Galvanizing Test										
	Visual Examination	Visual	100%	BSPTCL Spec.	BSPTCL Spec.	A	J	U	W/ Z	Y	
	Uniformity of Zn Coating	Chemical	2Samples/Lot of 500Nos.	IS 2633/4826 BSPTCL Spec.	Min. 6dips	A	J	U	W/Z	Y	

		Company name and address		cus	TOMER : SPTCL		Vendor Code :	Item: Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No Date: 0	. 00		16				: 15.01.2016 Till Revision
Sr.	No.	Components / Operation & Description of Test	s Ty	pe of Checl	Quantum Check / Sampling v Basis		Reference document for testing	Acceptance Norms	Format of Record	1	Ap	plica 3		odes 5	6	Remark
	Wt.	Of Zinc Coating	Ch	emical	2Samples/Lot 500Nos.	of	IS 4759/6745/ BSPTCL Spec.	610g/m² min. / 86microns		A	J	U	W/Z		Y	
	Adh	esion Test	Ch	emical	2Samples/Lot 500Nos.	of	IS 2629/ BSPTCL Spec.	No Peel Off		A	J	U	W/Z		Y	
4	(Forgi	nical Analysis ing, Casting, Accessories of Copper Bond)	Ch	emical	1Sample of eac type/Heat/lot		Relevant IS / BSPTCL Spec.	Within Specified Limits		A	J	U	W/Z		Y	
5		chanical Strength Test velded Joints	Mec	hanical	1% of offered L	ot	BSPTCL Spec. Apprd. Drwg.	20KN Min. / Apprd. Drwg.		A	J	U	W/Z		Y	
6	Proo Forg	of Load Test for Steel	Med	hanical	1% of offered L		67% of UTS for one min. / BSPTCL Spec.	Apprd. Drwg. / BSPTCL Spec.		A	J	U	W/Z		Y	
7		(on forged items after oping of galvanizing)	N.	D. T.	1% of offered L	ot	IS 7743/ 3703/ BSPTCL spec.	No Crack		A	J	U	W/Z		Y	
8	D.P.	. Test on Welded Joints	N.	D. T.	1% of offered L	ot	BSPTCL spec.	No Crack		A	J	U	W/ Z		Y	
9		. Test / Blow hole Check Aluminium Casting / ging	N.	D. T.	1% of offered L	ot	BSPTCL spec.	No Crack/ No Holes		A	J	U	W/Z		Y	
10	Meta	allurgical Test			1Sample of eac type	eh	BSPTCL Spec. IS 4163/4748/ 2853			A	J	U	W/Z		Y	
	a. G	rain Size	Meta	llurgical				Min. 6								
	b. In	nclusion Rating	Meta	llurgical				Max. 2 Thick								
	c. G	rain Flow	Meta	llurgical				Uniform/Grain flow typical of forging								
	d. H	lardness	Ph	ysical				Min. 175BHN- Cl-IV Min. 120BHN- Cl-II		_						

	Company name and address			CUSTOMER: BSPTCL		Vendor Code :		Item : Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No	P. No. 028 Io. 00 05.01.2016						: 15.01.2016 : Till Revision	
Sr.	Sr. No. Components / Operations & Description of Test		в Ту	pe of Check	Quantum Check / Sampling w Basis		Reference document for testing	Acceptance Norms	Format of Record	1	Ap ₁	plica 3			Remark		
I	TENS	ION AND SUSPENSION	HARD	WARE FITT	ING												
1	Mecha individ	anical Test on dual Components ot C.C. Ring & Arcing		hanical	2Samples/Lot of 500Nos.	of	Apprd. Drwg./ BSPTCL Spec.	Withstand Specified Load/ Apprd. Drwg.		A	J	U	W/Z		Y		
2		anical Test on C.C. & Arcing Horn	Mec	hanical	1Sample/Lot o 500Nos.	f E	BS 3288/ IS 2486 / BSPTCL Spec.	1.5KN / Apprd. Drwg.		A	J	U	W/ Z		Y		
3			Mec	hanical	IS 2486 /IEC 37	72	IS 2486 /IEC 372	IEC 372/BSPTCL Spec. /5-50Kgs		A	J	U	W/ Z		Y		
4	Shore Elasto	Hardness Test for omer	Ph	ysical	2% of offered Lo	ot	BSPTCL Spec.	65 – 80 Shore A		A	J	U	W/Z		Y		
5	Bend '	Test for P A Rod			2Samples/Lot		BSPTCL Spec. / IS 2121	No Deformation		A	J	U	W/ Z		Y		
6	Resilie	ence Test for P A Rod			2Samples/Lot		BSPTCL Spec. / IS 2121	No Loosening.		A	J	U	W/ Z		Y		
7	Condu Rod	activity Test for P A	Ele	ctrical	IS 2121		BSPTCL Spec. / IS 2121	40% of IACS min.		A	J	U	W/ Z		Y		
8	UTS o	f P A Rod	Mec	hanical	IS 2121		BSPTCL Spec. / IS 2121	Min. 35Kg/mm²		A	J	U	W/ Z		Y		
9	Lay ch Test	neck of PA Rod / Pitch	Meas	urement	2Samples/Lot			Right Hand		A	J	U	W/ Z		Y		
10	Dimer	nsion check of PA Rod	Meas	urement	IS 2121		Apprd Drg. / IS 2121	Within Specified Limits		A	J	U	W/ Z		Y		
11		o Slip Strength Test Vs e Test	Mec	hanical	2Samples/Lot of 500Nos.	of	BSPTCL Spec. / IS 2121/2486	Apprd. Drwg.		A	J	U	W/Z		Y		
12		trength Test for Dead assembly	Mec	hanical	1Sample/Lot o 500Nos.	f	BSPTCL Spec. / IS 2121/2486	Apprd. Drwg./95% UTS of cond.		A	J	U	W/ Z		Y		

Company name and address			OMER : PTCL	Vendor Code :	Item : Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. No. 028 Rev. No. 00 Date: 05.01.2016					Valid From: 15.01.20 Valid Up to: Till Revis				
	Components / Operations		Quantum o Check /	f Reference		Format		App	licat	ole C	odes				
Sr. No.	& Description of Test	Type of Check	Sampling wi Basis	th document for testing	Acceptance Norms	of Record	1	2	3	4	5	6	Remark		

II	CONDUCTOR & EARTHW	IRE ACCESSOF	RIES								
i	VIBRATION DAMPER						•	•			
1	Verification of Resonance Frequency	Mechanical	2 Samples / 500 Nos. or Part of thereof	IS 9708 / BSPTCL Spec.	BSPTCL Spec. / Apprd. Drwg.	A	J	U	W/Z	7	7
2	Clamp Slip Test	Mechanical	2 Samples / 500 Nos. or Part of thereof	IS 9708 / BSPTCL Spec.	BSPTCL Spec. / Apprd. Drwg. / 2.5 KN - 5 KN	A	J	U	W/ Z	Y	7
3	Dynamic Characteristics Test	Vibration	1 Sample / 1000 Nos. 3 Samples above 1000 & up to 5000 Nos. / Additional 1 Sample for every additional 1500 Nos. above 5000 Nos.	IS 9708 / BSPTCL	BSPTCL Spec.	A	J	U	W/ Z	7	7
4	Clamp Bolt Torque Test	Mechanical	2 Samples / 500 Nos. or Part of thereof	BSPTCL Spec. / IS 9708. 150% of Specified Torque	No Damage / Failure to Damper Component / Conductor or E/W.	A	J	U	W/Z	Y	7
5	UTS of Messenger Cable	Mechanical	2 Samples / 500 Nos. or Part of thereof	BSPTCL Spec. / IS 9708.	135 Kg/mm2 Min.	A	J	U	W/Z	Y	7
6	Mass Pull Off Test	Mechanical	2 Samples / 500 Nos. or Part of thereof	BSPTCL Spec. / IS 9708.	Apprd. Drwg.	A	J	U	W/ Z	Ŋ	7
7	Lay Ratio / No of strands for Messenger Cable	Mechanical	2Samples/Lot of 500Nos.	BSPTCL Spec. / Apprd. Drwg.	Apprd. Drwg.	A	J	U	W/ Z	Y	7
ii	FLEXIBLE COPPER BOND		•				•				•
1	Flexibility test	Visual	1 %	BSPTCL Spec.	BSPTCL Spec	A	J	U	W/Z	Y	7

	Company name and CUST				COMER:	•	Vendor Code :	Item: Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No Date: 0	. 00		16			-	: 15.01.2016 Till Revision
Sr.	Components / Operations & Description of Test		S Ty	pe of Check	Quantum of Check / Sampling with Basis		ling with Reference document for Acceptance Norms of testing		Format of Record			Applica 1 2 3		Codes 5		Remark
2	Strand Check	d & Stranding	V	isual	1 Sample / 500 Nos. or Part of thereof		BSPTCL Spec.	259 wires of 0.417 mm Dia., 7 stranded ropes each of 37 bunched wires		A	J	U	W/Z		Y	
3	Slip S	trength Test	Mec	hanical	2 Samples / 50 Nos. or Part of thereof		BSPTCL Spec. / Apprd. Drwg.	3 KN Min.		A	J	U	W/ Z		Y	
4	Resist	ance Test	Ele	ectrical	3 Samples / 50 Nos. or Part of thereof		BSPTCL Spec. / Apprd. Drwg.	0.00140Ohm Max.		A	J	U	W/Z		Y	
iii	SUSPI	ENSION / TENSION CLA	MP F	OR EARTHV	VIRE				•							
1	on eac	enical Strength Test ch component ding Tension Clamp	Mec	hanical	2 Samples / 50 Nos.	0	BSPTCL Spec. / Apprd. Drwg.	Withstand Specified Load/ Apprd. Drwg.		A	J	U	W/Z		Y	
2		trength Test of on Clamp	Mec	hanical	2 Samples / 50 Nos. or Part of thereof		BSPTCL Spec. / IS 2121	Apprd. Drwg./95% UTS of E/W.		A	J	U	W/Z		Y	
3		ing Strength Test on on Clamp	Mec	hanical	2 Samples / 50 Nos. or Part of thereof	f	BSPTCL Spec. / Apprd. Drwg.	Withstand Specified Load/ Apprd. Drwg.		A	J	U	W/ Z		Y	
4		trength Test on ension Clamp	Мес	hanical	2 Samples / 50 Nos. or Part of thereof		BSPTCL Spec. / Apprd. Drwg.	Apprd. Drwg. / 12 to 17 KN		A	J	U	W/ Z		Y	
5		ing Strength Test on ension Clamp	Mec	hanical	2 Samples / 50 Nos. or Part of thereof		BSPTCL Spec. / Apprd. Drwg.	Apprd. Drwg./25KN Min.		A	J	U	W/ Z		Y	
6	Hardn Sleeve	ness Test on Steel	Ph	ysical	2 Samples / 50 Nos. or Part of thereof		BSPTCL Spec. / IS2121	120 to 160BHN.		A	J	U	W/Z		Y	
iv	MIDS	PAN COMPRESSION JO	NT /	REPAIR SLI	-		OR									
1	Hardn Sleeve	ness Test on Steel	Ph	ysical	2 Samples / 50 Nos. or Part of thereof		BSPTCL Spec. / IS 2121	120 to 160BHN.		A	J	U	W/Z		Y	

				<u>MA</u>	NUFACTURI	NG (QUALITY PLAN	<u>- HARDWARE FI1</u>	TINGS							
	Company name and address			CUSTOMER: BSPTCL			Vendor Code : Hardware Fittings, Conductor & Earthwire Accessories		M.Q. P. Rev. No Date: 0	.6				: 15.01.2016 Till Revision		
					Quantum		Reference		_		Ap	plica	ble C	odes		
Sr. No. Components / Operation & Description of Test			Type of Check		Check / Sampling with Basis		doors and for	Acceptance Norms	Format of Record	1	2	3	4	5	5 6	Remark
2		trength Test On an Compression Joint	Mec	hanical	1 Sample / 50 Nos. or Part o thereof		BSPTCL Spec. / IS 2121	Apprd. Drwg./ Min. 95% UTS of Cond. or E/W.		A	J	U	W/Z		Y	
3	Axial '	Tensile Load Test on T	Mec	hanical	1 Sample / 50 Nos. or Part o thereof		BSPTCL Spec. / IS 2121	Min. 30 KN		A	J	U	W/Z		Y	
v	RIGIE	SPACER														
1	Comp Test	ression & Tension	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	U	W/Z		Y	
2	Clamp Slip Test		Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	2.5 KN – 5 KN / Apprd. Drwg.		A	J	U	W/ Z		Y	
3	Clamp	o Bolt Torque Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	150 % of Specified Torque. / Apprd. Drg.		A	J	U	W/ Z		Y	
4	Assem	nbly Torque Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	Apprd. Drwg.		A	J	U	W/ Z		Y	
vi	BUND	LE SPACER		•					•				1	ı		
1	Comp Test	ression & Tension	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	U	W/Z		Y	
2	Mover	ment Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	U	W/ Z		Y	
3		Hardness Test er Compound)	Ph	ysical	1%		BSPTCL Spec.	65 – 80 Shore A		A	J	U	W/ Z		Y	
4		f Retaining Rod	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 2121	Min. 35Kg/mm²		A	J	U	W/ Z		Y	
5		activity Test for ning Rod	Ele	ctrical	IS: 10162		BSPTCL Spec. / IS 2121	40% of IACS min.		A	J	U	W/ Z		Y	
6	Clamp	o Slip Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	2.5 KN – 5 KN. / Apprd. Drwg.		A	J	U	W/ Z		Y	
vii	SPAC	ER DAMPER		<u></u>		1			•		•					
1	Comp Test	ression & Tension	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	U	W/Z		Y	
	1					1							1			

				<u>M</u>	NUFACTURI	NG	QUALITY PLAN	- HARDWARE FIT	<u>TINGS</u>							
Company name and address				TOMER : SPTCL		Vendor Code :	Item : Hardware Fittings, Conductor & Earthwire Accessories	M.Q. P. Rev. No Date: 0	16	_		: 15.01.2016 Till Revision				
				<u>I</u>	Quantum						Ap	plica	ble C	odes		
Sr.	No.	Components / Operations & Description of Test		pe of Check	K Check / Sampling v Basis	Sampling with document for		Acceptance Norms	Format of Record	1	2	3	4	5	6	Remark
2	Move	ement Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	BSPTCL Spec. / Apprd. Drwg.		A	J	U	W/Z		Y	
3	1	e Hardness Test ber Compound)	Ph	ıysical	1%		BSPTCL Spec. / Apprd. Drwg.	55 ± 5 Shore A		A	J	U	W/ Z		Y	
6	Clam	ıp Slip Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	2.5 KN – 5 KN. / Apprd. Drwg.		A	J	U	W/Z		Y	
3	Clam	p Bolt Torque Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	150 % of Specified Torque. / Apprd. Drg.		A	J	U	W/Z		Y	
4	Asser	mbly Torque Test	Mec	hanical	IS: 10162		BSPTCL Spec. / IS 10162	Apprd. Drwg. / 40 N-M		A	J	U	W/Z		Y	
E	PAC	KING & DISPATCH														
1	Visua	al Inspection	V	ïsual	100%]	EM Plant Standard	EM Plant Standard		A	J	S	W		N	
2		ication of Quantity / ing Details / Packing			100%		Packing List	Packing List		A	J	S	w		N	
3	Chec	k of Dispatch Clearance/			100%		Dispatch Clearance/Instructions	Dispatch Clearance/Instructions		A	J	S	W		N	