



Item: 1.1 KV Power (XLPE & PVC) Insulated cables FRLS		STANDARD QUALITY PLAN (CONFORMING TO CODE: IS 1554 PART 1, IS 7098 Part-I AND NTPC TECHNICAL SPECIFICATION)				QP. NO. 0000-999- QOE- S-041 REV-00 DATE : 03-02-12		REVIEWED BY		APPROVED BY	
Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check	Reference Document	Acceptance Norms	Record Format	Agency	Remarks	
1	2	3	4	5	M C/N	7	8	9	D* M C N	11	
Instructions: 1) Cable manufacturer to maintain records to show co- relation of raw materials to finished cables i.e raw material batch/ lot no. should be traceable to the cable drum. 2) Cable manufacturer to maintain all quality control records identified as per all QP stages enumerated below whether it is identified for NTPC verification or witness or not.											
A Raw material/ Brought out Items											
1.01	Aluminum	1. Make	MA	Verify	100%	MANUFACTURER APPROVED SOURCES	MANUFACTURER APPROVED SOURCES	QCR	V	--	
		2. Resistivity	MA	Elect	As per Cable Mfr Std.	IS5082	IS5082	--do--	P	--	
1.02	PVC / XLPE/compound for insulation	1. Make	MA	Verify	--do--	MANUFACTURER APPROVED SOURCES	MANUFACTURER APPROVED SOURCES	--do--	V	--	
		2. Type/ Grade	MA	Verify	100%	NTPC ADS	NTPC ADS	--do--	V	V	
		3. All acceptance test as per manufacturer norms including thermal stability test for PVC insulation	MA	Verify	As per manufacturer norms	NTPC ADS	NTPC ADS	--do--	V	V	
1.03	PVC Compound for Inner sheath	1. Make	MA	Verify	--do--	MANUFACTURER APPROVED SOURCES	MANUFACTURER APPROVED SOURCES	--do--	V	V	
		2. Type/ Grade	MA	Verify	--do--	NTPC ADS	NTPC ADS	--do--	V	V	
1.04	Steel wire / Formed Wire (As applicable)	1. Make	MA	Verify	--do--	MANUFACTURER APPROVED SOURCES	MANUFACTURER APPROVED SOURCES	--do--	V	V	
		2. Dimension	MA	Meas	1 sample from each size / lot	NTPC APPROVED DATA SHEET & IS 3975	NTPC APPROVED DATA SHEET & IS 3975	--do--	P	--	
		3. All acceptance tests as per IS 3975	MA	Verify	As per IS 3975	IS 3975	IS 3975	Supplier TC	V	V	
1.05	PVC compound for Sheath	1. Make	MA	Verify	As per manufacturer norms	MANUFACTURER APPROVED SOURCES	MANUFACTURER APPROVED SOURCES	QCR	V	--	
		2. Type / Grade	MA	Verify	100%	NTPC ADS	NTPC ADS	QCR	V	V	
		3. All acceptance test as per manufacturer norms	MA	Verify	As per manufacturer norms	NTPC ADS	NTPC ADS	QCR	V	V	
										Refer note 1	

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Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check		Reference Document	Acceptance Norms	Record Format	Agency			Remarks
					M	C/N				D*	M	C	
1	2	3	4	5	6		7	8	9	10		11	
		4. Thermal Stability	MA	Chem	One sample / Batch	--	NTPC ADS	NTPC ADS	QCR	P	--	--	
		5. Oxygen Index	MA	Chem	--do--	--	NTPC ADS/ IS 10810 Part 58	NTPC ADS/ IS 10810 Part 58	--do--	P	--	--	
		6. Acid Gas Emission	MA	Chem	One sample / Batch	--	NTPC ADS / IEC60754	NTPC ADS / IEC60754	QCR	P	--	--	
1.06	Wooden Drum	1. Dimension	MI	Meas	Manuf. Std.	--	IS 10418	IS10418	--do--	P	--	--	
		2. Anti termite treatment	MI	Chem	Cable manuf. std	--	CABLE MANUF. STD.	CABLE MANUF. STD.	COC	V	V	V	COC from drum manuf.
1.07	Steel Drum	1. Dimension	MI	Meas	--do--	--	--do--	--do--	QCR	P	--	--	
		2. Surface finish	MI	Meas	--do--	--	--do--	--do--	--do--	P	--	--	
B	Process & Stage Inspection												
2.01	Wire Drawing	1. Surface finish	MA	Visual	One sample/Settin g of each size	--	SHOULD BE SMOOTH & FREE FROM SCRATCHES	SHOULD BE SMOOTH & FREE FROM SCRATCHES	QCR	P	--	--	
		2. Wire Diameter	MA	Meas	--do--	--	NTPC ADS	NTPC ADS	--do--	P	--	--	
		3. Tensile test	CR	Mech	--do--	--do--	--do--	--do--	--do--	P	V	V	Refer Sl. No.3.03(iii)
2.02	Bunching / stranding	4. Wrapping test	CR	Mech	--do--	--do--	--do--	--do--	--do--	P	V	V	--do--
		1. No. of wires	MA	Meas	--do--	--	NTPC ADS	NTPC ADS	--do--	P	--	--	
		2. Dia of wire	MA	Meas	--do--	--	--do--	--do--	--do--	P	--	--	
		3. Dimension of Conductor	MA	Meas	--do--	--do--	--do--	--do--	--do--	P	--	--	
		4. Direction of lay	MA	Visual	--do--	---	--do--	--do--	--do--	P	--	--	
		5. Records of strand breakage / welding during conductor stranding	MA	Verify	--do--	--	IS 8130	IS8130	--do--	P	--	--	
		6. Surface finish	MA	Visual	--do--	-	--do--	--do--	--do--				
		7. DC Resistance	CR	Meas	--do--	-	IS8130/NTPC ADS	IS8130/ NTPC ADS	--do--	P	--	--	
2.03	Insulation extrusion	1. Surface finish	MA	Visual	One sample/Settin g of each size	-	NTPC spec	SHOULD BE SMOOTH. NO POROSITY IS PERMITTED.	QCR	P	--	--	XLPE/ PVC compound shall be preferably loaded in to extruder by suction method.

LEGEND:- *RECORDS, IDENTIFIED WITH "TICK" UNDER COLUMN "D" SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

-M:MANUFACTURER/SUPPLIER, C:MAIN SUPPLIER, N:NTPC, P:PERFORM W:WITNESS,V:VERIFICATION AS APPROPRIATE, CHP:NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

FORMAT NO:QS-01-QA1-P-10/F3-R1

Item: 1.1 KV Power (XLPE & PVC) Insulated cables FRLS		STANDARD QUALITY PLAN (CONFORMING TO CODE: IS 1554 PART 1, IS 7098 Part-I AND NTPC TECHNICAL SPECIFICATION)					QP. NO. 0000-999- QOE- S-041 REV-00 DATE : 03-02-12 Page 3 of 11		REVIEWED BY INDERJIT SINGH VIKRAM TALWAR RAJEEV GARG		APPROVED BY APR. GARG		
Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check		Reference Document	Acceptance Norms	Record Format	Agency			Remarks
					M	C/N				D*	M	C	
1	2	3	4	5	6		7	8	9	10		11	
		2.Colour of cores	MA	Visual	One sample/Settin g of each size	-	NTPC ADS	NTPC ADS	QCR	P	--	--	
		3.Thickness	CR	Meas	--do--	--	NTPC ADS	NTPC ADS	--do--	P	--	--	
		4.Spark Test	CR	Elect	100%	100%	CABLE MANUF. STD.	No FAILURE	--do --	P	V	V	1.Spark test failure record is to be verified. 2.Core repairing not permitted
		5. Hot Set	CR	Mech	One sample/Settin g of each size	--	IS 7098- Part I	IS 7098- Part I	--do--	P	--	--	Sample is to be taken from both top & bottom end
		1. Core sequence	MA	Visual	--do--	--	IS 1554 (Part I) & IS 7098- Part I	IS 1554 (Part I) & IS 7098- Part I	--do--	P	--	--	
2.04	Laying up	2. Direction of lay	MA	Visual	--do--	--	--do--	--do--	--do--	P	--	--	
2.05	Inner Sheath	3. Dia over laid up core	MA	Meas	--do--	--	NTPC ADS	NTPC ADS	--do--	P	--	--	
		1.Colour	MA	Visual	--do--	-	--do--	--do--	--do--	P	--	--	
		2. Surface Finish	MA	Visual	100%	-	NTPC SPECIFICATION	FISH EYE, BLOW HOLE NOT PERMITTED	--do--	P	--	--	
		3.Thickness	MA	Meas	One sample/Settin g of each size	-	NTPC ADS	NTPC ADS	--do--	P	--	--	
		4.Dia over inner sheath	MI	Meas	--do--	-	--do--	--do--	--do--	P	--	--	
2.06	Armouring (As Applicable)	1.Dimension	MA	Meas	--do--	-	--do--	--do--	--do--	P	--	--	
		2.No. of wires / strip	MA	Meas.	--do--	-	--do--	--do--	--do--	P	--	--	
		3. Direction of lay	MA	Visual	--do--	--	IS 1554 (Part I) & IS 7098- Part I	IS 1554 (Part I) & IS 7098- Part I	QCR	P	--	--	

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FORMAT NO:QS-01-QAI-P-10/F3-R1

Item: 1.1 KV Power (XLPE & PVC) Insulated cables FRLS		STANDARD QUALITY PLAN (CONFORMING TO CODE: IS 1554 PART 1, IS 7098 Part-I AND NTPC TECHNICAL SPECIFICATION)				Q.P. NO. 0000-999- QOE- S-041 REV-00 DATE : 03-02-12 Page 4 of 11 VALID UP TO: 02-02-15		REVIEWED BY INDERJIT SINGH VIKRAM TALWAR RAJEEV GARG		APPROVED BY अधीक्षक आयुक्त आयुक्त आयुक्त	
Sl. No	Component & Operations	Class	Type of check	Quantum of check		Reference Document	Acceptance Norms	Record Format	D*	Remarks	
				M	C/N					M	N
1	4.Coverage & Quality of armouring	4	5 Meas.	6	--	7	8	9	10	11	
		MA	Meas.	100%	--	Min. area of coverage of armouring shall be 90%. The gap between armour wires / formed wires shall not exceed one armour wire/ formed wire space & there shall be no cross over/ over riding of armour wire / formed wire. Zn rich paint shall be applied on armour joint surface of G.S. Wire /formed wire. The breaking load of armour wire joint shall not be less than 95% of that of armour wire / formed wire. (As per NTPC specification)		QCR	P	--	--
	5 Dia over armouring	MA	Meas.	One sample/Settin g of each size	--	NTPC ADS		--do--	P	--	--
2.07	Outer Sheath	MA	Visual	100%	--	Pimple, Fish Eye, Burnt particles, Blow Hole not permitted. Repairing on outer sheath not permitted. (As per NTPC specification)		--do--	P	--	PVC FRLS compound shall be preferably loaded in to extruder by suction method.
	2.Colour of sheath	MA	Visual	One sample/Settin g of each size	--	NTPC ADS	NTPC ADS	--do--	P	--	--
	3. Dia over outer sheath	MA	Meas	--do--	--	NTPC ADS	NTPC ADS	--do--	P	--	--
	4.Thickness of outer sheath	CR	Meas	--do--	-	--do--	--do--	--do--	P	--	--
	5. Embossing quality	MA	Visual	100%	-	Drum no., IS1554-1 / IS7098-1, Cable size, Voltage grade & Words "FRLS" at every 5 meter is to be embossed. Embossing shall be automatic, in line & marking shall be legible & indelible. (As per NTPC specification)		--do--	P	--	Drum no. on cable may be embossed/print ed
	6. Sequential marking	MA	Visual	Full length	--	Sequential marking of length of cable in meter at every one meter is to be embossed / printed. Embossing / printing shall be progressive, automatic, in line & marking shall be legible & indelible. (A s per NTPC specification)		--do--	P	--	--
C	Finished Cables										
3.01	Type test reports clearance from NTPC Engineering	CR	Doc.	100%	100%	NTPC SPECIFICATION / NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	NTPC SPECIFICATION / NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	--do--	✓	P	V

Item: 1.1 KV Power (XLPE & PVC) Insulated FRLS cables		STANDARD QUALITY PLAN (CONFORMING TO CODE: IS 1554 PART 1, IS 7098 Part-I AND NTPC TECHNICAL SPECIFICATION)				QP. NO. 0000-999-QOE-S-041 REV-00 DATE : 03-02-12 Page 5 of 11 VALID UP TO: 02-02-15				REVIEWED BY INDERJIT SINGH gh-10m VIKRAM TALWAR Wdy RAJEEV GARG Kz		APPROVED BY A.K. Garg NTPC	
Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check		Reference Document	Acceptance Norms	Record Format	D*	Agency		Remarks
					M	C/N					M	N	
1	2	3	4	5	6		7	8	9		10		11
3.02	Routine Tests	1.High Voltage test at room temperature	CR	Elect	100%	100%	NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	Test certificate	✓	P	W	Refer note 2
		2.Conductor Resistance	CR	Elect	100%	100%	NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	Test certificate	✓	P	W	Refer note 2
3.03	Acceptance Tests												
3.03 (i)	Construction of finished Cable	1. OD of Cable	MA	Meas.	Each type & size of cables as per sampling plan of IS 1554 (Part I) & IS 7098- Part I		NTPC ADS	NTPC ADS	--do--	✓	P	W	W
		2. Laying of core	CR	Visual	--do--		NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	NTPC ADS / IS 1554 (Part I) & IS 7098- Part I	--do--	✓	P	W	W
		3. Core Identification	CR	Visual	--do--		--do--	--do--	--do--	✓	P	W	W
		4. Colour of outer sheath	MA	Visual	--do--		NTPC ADS	NTPC ADS	--do--	✓	P	W	W
		5. Inner sheath thickness	CR	Meas	- do -		--do--	--do--	--do--	✓	P	W	W
		6. Inner sheath colour	MA	Visual	- do -		- do -	- do -	--do--	✓	P	W	W
3.03 (ii)	Armour wires/ Formed wires (if applicable)	1.Dimensions	CR	Meas	--do--		NTPC ADS /IS1554(PartI)/IS3975	NTPC ADS /IS1554(PartI) /IS3975	--do--	✓	P	W	W
		2. No. of wires/ formed wire	CR	Mech	-- do --		--do--	--do--	--do--	✓	P	W	W
		3. Tensile test	CR	Mech	--do--		--do--	--do--	--do--	✓	P	W	W
		4. Elongation test	CR	Mech	--do--		--do--	--do--	--do--	✓	P	W	W
		5.Torsion test (for round wires only)	CR	Mech	--do--		--do--	--do--	--do--	✓	P	W	W
		6. Wrapping test	CR	Mech	--do--		--do--	--do--	--do--	✓	P	W	W
		7. Resistance test	CR	Mech	--do--		--do--	--do--	--do--	✓	P	W	W

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FORMAT NO:QS-01-QAL-P-10/F3-R1

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Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check		Reference Document	Acceptance Norms	Record Format	Remarks				
					M	C/N				D*	M	C	N	
1	2	3	4	5	6		7	8	9		10		11	
		8.Mass of Zinc coating	CR	Meas	Each type & size of cables as per sampling plan of IS 1554 (Part I) & IS 7098- Part I	--do--	NTPC ADS /IS1554(Part1)/IS3975	NTPC ADS /IS1554(Part1)/IS3975	Test certificate	✓	P	W	W	
		9. Uniformity of Zinc Coating	CR	Chem.	--do--	--do--	--do--	--do--	--do--	✓	P	W	W	
		10.Adhesion test	CR	Mech	--do--	--do--	--do--	--do--	--do--	✓	P	W	W	
		11.Freedom from defects	CR	Visual	--do--	--do--	--do--	--do--	--do--	✓	P	W	W	
3.03 (iii)	Conductor	1.Resistance Test	CR	Elect	--do--	--do--	--do--	--do--	--do--	✓	P	W	W	
		2.Tensile test (For aluminum conductor only)	CR	Mech	Each type & size of cables as per sampling plan of IS 1554 (Part 1)/7098(Part-1)		NTPC ADS/ IS 8130	NTPC ADS/ IS 8130	--do--	✓	P	W	W	Test report of manufacturer to be reviewed as per Sl. No. 2.01 for Tensile test & wrapping test (for Aluminum) in case this test is not applicable for cable under inspection as per IS 8130 cl. 6.2
		3. Wrapping test (For aluminum conductor only)	CR	Mech	--do--	--do--	--do--	--do--	--do--	✓	P	P	W	--do--

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STANDARD QUALITY PLAN (CONFORMING TO CODE: IS 1554 PART 1, IS 7098 Part-1 AND NTPC TECHNICAL SPECIFICATION)															REVISED BY INDERJIT SINGH VIKRAM TALWAR RAJEEV GARG			APPROVED BY: A.K. Garg M.P.C., NTPC		
Item: 1.1 KV Power (XLPE & PVC) Insulated FRLS cables		Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check		Reference Document	Acceptance Norms	Record Format	D*	Agency			Remarks				
							M	C/ N					M	C	N					
		1	2	3	4	5	6		7	8	9		10			11				
		3.03 (IV)	PVC/XL PE/ Insulation & PVC Sheath	1. Thickness of insulation & PVC Sheath	CR	Meas	Each type & size of cables as per sampling plan of IS 1554 (Part 1)/IS7098(Part-1)		NTPC ADS/ IS 1554(PartI) & IS 7098 Part I	NTPC ADS/ IS 1554(PartI) & IS 7098 Part I	Test Certificate	✓	P	W	W					
				2. Tensile strength & elongation at break of insulation & outer sheath (before ageing)	CR	Mech	Each type & size of cables as per sampling plan of IS 1554 (Part 1)/IS7098(Part-1)		NTPC ADS/ IS 1554(PartI) & IS 7098 Part I	NTPC ADS/ IS 1554(PartI) & IS 7098 Part I	Test Certificate	✓	P	W	W	Refer Note 3 Also				
				3. Tensile strength & elongation at break of insulation & outer sheath (after Ageing)	CR	Mech	Refer Note 3		--do--	--do--	--do--	✓	P	W	W	Refer Note 3 (ath)				
				4. Insulation resistance (Volume resistivity method)	CR	Elect	Each type & size of cables as per sampling plan of IS 1554 (Part 1) & IS 7098- Part I		--do--	--do--	--do--	✓	P	W	W					
				5. High voltage test at room temperature	CR	Elect	Each type & size of cables as per sampling plan of IS 1554 (Part 1) & IS 7098- Part I		--do--	--do--	--do--	✓	P	W	W					
				6. Hot Set test (for XLPE insulation only)	CR	Phy	--do--		--do--	--do--	--do--	✓	P	W	W					
				7. Thermal stability on PVC Insulation and outer sheath	CR	Chem	One sample of each offered lot of all offered sizes		--do--	--do--	--do--	✓	P	W	W					

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Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check M C/N		Reference Document	Acceptance Norms	Record Format	D*	Agency M C N		Remarks
1	2	3	4	5	6		7	8	9		10		11
		8.Oxygen index Test on outer sheath	CR	Chem	One sample of each offered lot of all offered sizes		NTPC ADS / IS10810 Part 58	NTPC A.D.S	--do--	✓	P	W	W
		9.Smoke density rating test on outer sheath	CR	Chem	One sample of each offered lot of all offered sizes		NTPC ADS & ASTM D2843	NTPC ADS	--do--	✓	P	W	W
		10.Acid gas generation test on outer sheath	CR	Chem	One sample of each offered lot of all offered sizes		NTPC ADS & IEC 60754-1	NTPC ADS	Test Certificate	✓	P	W	W
		11.Flammability test on completed cable	CR	Chem	Refer Note 4	Refer Note 4	NTPC ADS & IEC 60332 Part-3 (Category-B)	NTPC ADS	--do--	✓	P	W	W
		12.Surface finish & length measurement.	CR	Visual & Meas	One length of each size	One length of each size	(1) Drum no. (2) IS1554-1 /IS7098-1, Cable size, Voltage grade & Words " FRLS" at every 5 meter is to be embossed. Embossing shall be automatic, in line & marking shall be legible & indelible. (3) Sequential marking of length of cable in meter at every one meter is to be embossed / printed. Embossing / printing shall be progressive, automatic, in line & marking shall be legible & indelible		--do--	✓	P	W	W
		13. Sequence of cores armour coverage, gap between two consecutive armour/ formed wire	CR	Visual & Meas	One length of each size	One length of each size	Min. area of coverage of armouring shall be 90%. The gap between armour wires / formed wires shall not exceed one armour wire/ formed wire space & there shall be no cross over/ over riding of armour wire / formed wire. Zn rich paint shall be applied on armour joint surface of G.S. Wire /formed wire		--do--	✓	P	W	W
4	Packing	1. Sealing	MA	Visual	100%	100%	(1)IS1554(Part-I) & IS 7098-Part I (2) The surface of the drum and the outer most cable layer shall be covered with water proof cover. (3) Both the ends of cables shall be properly sealed with heat shrinkable PVC/ rubber caps secured by "U" nails.		QCR	✓	P	--	--
4.01	Identification	NTPC Sealing	MA	Visual	100%	100%	Sealing shall be visible		QCR	✓	P	V	V

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-M:MANUFACTURER/SUPPLIER, C:MAIN SUPPLIER, N:NTPC, P:PERFORM W:WITNESS,V:VERIFICATION AS APPROPRIATE, CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

FORMAT NO:QS-01-QAL-P-10/F3-R1



Item: 1.1 KV Power (XLPE & PVC) Insulated FRLS cables		STANDARD QUALITY PLAN (CONFORMING TO CODE: IS 1554 PART 1, IS 7098 Part-I AND NTPC TECHNICAL SPECIFICATION)		QP. NO. 0000-999- QOE- S-041 REV-00 DATE : 03-02-12 Page 9 of 11 VALID UP TO: 02-02-15	REVIEWED BY Inderjit Singh Vikram Talwar Rajeev Garg	APPROVED BY A.K. Garg Dt. 02-02-15				
Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check	Reference Document	Acceptance Norms	Record Format	Agency	Remarks
1	2	3	4	5	6	7	8	9	10	11

Notes:

1)	If the compound manufacturer is carrying out Ageing test , test report of compound manufacturer is to be reviewed. If the compound manufacturer is not carrying out ageing test, then cable manufacturer is to carry out ageing test & test report is to be reviewed (quantum of ageing test sample shall be one sample /batch)									
2)	(a) In case of manufacturers / supplier who have supplied cables in the past through Corporate Centre/ Regional Offices :- Routine Test of manufacturer internal test report are to be verified by NTPC at the time of final inspection. 2(b) In case of manufacturers / supplier WHO HAVE NOT SUPPLIED cables in the past through Corporate Centre/ Regional Offices ,- Routine Test are to be witnessed by Main Contractor & NTPC. This is in addition to manufacturer internal test report to be verified by NTPC at the time of final inspection.									
3)	Refer table on page 10 & 11 of 11 for Sampling & Acceptance criteria.									
4)	For PVC insulated LT power cable :- For cables with OD less than equal to 30 mm, any size of cable may be clubbed together. For cables where OD is more than 30 mm, clubbing to be done for cables having similar ODs. For XLPE insulated LT Power cable: Clubbing to be done for cables having similar ODs.									
LEGEND:	NTPC ADS: NTPC approved data sheet, QCR: quality control records of cable manufacturer, CABLE MANUF STD- cable manufacturer's internal plant standard, MI: minor, MA: major, CR: critical, COC- certificate of conformance									

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Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check M C/N	Reference Document	Acceptance Norms	Record Format	Agency	Remarks
1	2	3	4	5	6	7	8	9	D* M C N	11

Sampling & Acceptance Criteria				Testing procedure	Remarks
Criteria	Manufacturer experience prerequisite	Condition			
Samples as per relevant IS from every size/ type of cable in the offered lot shall be tested for Tensile Strength & Elongation (before ageing). The values will be compared with corresponding values mentioned in the Type Test report accepted by NTPC. These values of Tensile Strength & Elongation (before ageing) should be within +/- 15% tolerance (final values should be more than the minimum values indicated in relevant standard) of the Type Test report	In case of Manufacturers/ Supplier who have supplied cables in the past through Corporate Centre / Regional offices	In case of sizes/ type which meet the criteria		1 Sample of PVC insulation & outer sheath per type of cables offered which have met the criteria, will be put on accelerated ageing test (refer IRS specification no. IRS: S-63/2007 Rev 3.0). The samples shall be aged in air oven at temperature of 130°C +/- 2°C for 5 hours. 1 Sample of XLPE insulation per type of cables offered which have met the criteria, will be put on ageing test as per IS 7098. After wards the samples shall be tested for Tensile Strength & Elongation. Acceptance norms shall be as per relevant IS. This test shall be witnessed by NTPC.	In case the samples do not meet the requirement in accelerated ageing test then 1 sample of that size/ type will be put on ageing test as per IS.
				Particular size/ type will be put on ageing test as per IS. This test shall be witnessed by NTPC.	



		Item: 1.1 KV Power (XLPE & PVC) Insulated FRLS cables		STANDARD QUALITY PLAN (CONFORMING TO CODE: IS 1554 PART 1, IS 7098 Part-I AND NTPC TECHNICAL SPECIFICATION)		QP. NO. 0000-999- QOE- S-041 REV-00 DATE : 03-02-12 Page 11 of 11 VALID UP TO: 02-02-15		REVIEWED BY INDERJIT SINGH VIKRAM TALWAR RAJEEV GARG		APPROVED BY Approved D.A.K. Garg.	
Sl. No	Component & Operations	Characteristics	Class	Type of check	Quantum of check M C/N	Reference Document	Acceptance Norms	Record Format	D*	Agency M C N	Remarks
1	2	3	4	5	6	7	8	9	10	11	
				In case of Manufacturers/ Supplier WHO HAVE NOT SUPPLIED cables in the past through Corporate Centre / Regional offices		In case of size /type which meet the criteria In case of size/ type which do not meet the criteria	1 Sample per type out of all sizes which have met the criteria, will be put on ageing test and witnessed by NTPC as per relevant IS Particular size / type will be put on ageing test as per IS. This test shall be witnessed by NTPC				

LEGEND:- *RECORDS, IDENTIFIED WITH "TICK" UNDER COLUMN "D" SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

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