CUSTOMER :NCC LIMITED				
OUR OFFER NO. GPIL/QS/00003-00023				
Sl No	**PARTICULARS**		**3C X 300 sqmm**	**3C X 185 sqmm**
1	Manufacturers Name & Address		GUPTA POWER INFRASTRUCTURE LTD.	
2	Country of manufacturer		INDIA	
3	Type of cable		A2XFY	
4	Applicable standards for manufacturing		IS 7098-2,IS 8130,IS 5831	
5	Applicable standards for testing		IS 7098-2,IS 8130,IS 5831	
6	Rated voltage	kV	19/33	6.35/11
7	Maximum service voltage	kV	19	6.35
8.0	Maximum continuous current carrying capacity per cable when laid in air at an ambient air temperature of 50 deg. (single core cables solid bonded)	A	398.7	293.7
8.1	Maximum continuous current carrying capacity per cale when lain in ground at a depth of 1.0 m (ground temp. 40 deg. C and soil thermal resistivity of 150 deg.c/watt/cm max. Conductor temp. 90 deg. C) (single core cables solid bonded)	A	319.4	248.5
8.2	Maximum continuous current carrying capacity per cable when drawing into duct./pipes (single core cables solid bonded) A lain in covered RCC trenches at an ambient temperature of 50 Deg. C laying conditions to be specified (Single core cables solid Deg. C laying conditions to be specified (Single core cables solid bonded)	A	317	240
9	Short circuit withstand capacities for 1 second of (With a conductor temperature of 90 Deg. C at the commencement			
	i) Conductor	KA	28.2	17.39
	ii) Screen		768 Amps for 1 sec. for all three cores combined	
	iii) Armour	KA	8.2	5.2
10	**Conductor**			
	i) Material & Grade		H2/H4 Grade Aluminium as per IS 8130	
	ii) Nominal cross – sectional area	sq.mm	300	185
	iii) No. of strands		37	37
	iv) Diameter of each strand (Nominal) before compaction	mm	3.25	2.65
	v) Max. DC resistance of conductor at 20 Deg. C	ohm/km	0.1	0.164
	vi) Max. AC resistance of conductor at 90 Deg. C	ohm/km	0.13	0.211
11	Reactance of cable at normal frequency (Approx)	ohm/km	0.105	0.091
12	Electrostatic capacitance at normal frequency	uF/Km	0.23	0.38
13	Charging current	A/Km	1.37	0.757
14	Loss tangent at normal frequency at Uo		0.004	0.004
15	**Conductor screen**			
	i) Material		Extruded Semiconducting compound	
	ii) Nominal thickness	mm	0.5	0.5
16	**XLPE Insulation**			
	i) Composition		HT XLPE	

	ii) Type of curing		Dry Cure	
	iii) Thickness of insulation (nominal)	mm	8.8	3.6
	iv) Tolerance on thickness	mm	0.1 * nom. Thickness+0.1	
	v) Dielectric constant at normal frequency		2.5	
	vi) Specific insulation resistance at 20 deg. C	ohm/km	IR: 220 x 10^6	IR: 130 x 10^6
	vii) Min. Volume resistivity at 20 deg. C	ohm.cm	1 X 10^14	
	viii) Min. volume resistivity at 90 deg. C	ohm.cm	2 X 10^12	
	ix) Min. Tensile strength	kg/sq.cm	12.5	
	x) Min. Elongation percentage at rapture %		200 percent	
	xi) Identification of cores		By colour polyster tapes of Red,Yellow,Blue	
17	1.2/50 microsecond impulse wave withstand voltage	kVp	170	70
18	5 min. power frequency withstand voltage	kV	21	63
19	Max. Dielectric stress at the conductor	kV/cm	19.5	6.54
20	Max. Dielectric stress at the conductor screen	kV/cm	1.5	1.06
21	**Insulation screen**			
	i) Material		Semiconducting compound	
	ii) Extruded/wrapped		Extruded	
	iii) Nominal thickness	mm	0.5	0.5
	iv) Colour		Black	
22	**Metallic screen**			
	i) Material / composition		A single layer of plain copper tape	
	ii) Nominal radial thickness / dia	mm	0.04 X 50 (approx)	
23	Nominal diameter over metallic screen		40 (+/-1)	25.3 (+/-1)
24	Nominal radial clearance allowed under metal sheath	mm	Not Applicable (Note: Applicable in cables where Lead sheath / Aluminium sheath is there)	
25	Type and material of filler		Hollow PVC fillers used while laying up the cores	
26	**Armour**			
	i) Material and type		Galvanized Steel Flat Strip armour	
	ii) Dimension of armour wire	mm	4.0 X 0.8	
27	**Innersheath**			
	i) Material and type		Extruded Black PVC ST2 as per IS 5831	
	ii) Min.Thickness	mm	0.7	0.7
28	**Outersheath**			
	i) Material and type		Black Extruded PVC ST2 as per IS 5831	
	ii) Min.Thickness	mm	3	2.36
	iii) Properties of sheath		The outersheath material has FRLS ptoperties and the cable shall pass flammability test as per IEC 60332-Part 3 (cat-B)	
29	Overall dia of cable (+/-2)	mm	97	64
30	Standard drum length with tolerance	meter	500 +/- 5%	
31	Embossing details on outersheath		GPIL-RHINO,ELECTRIC, Voltage Grade ,Cable size and type, FRLS,DDUGJY, Mfg. Yr.	
32	Sequential Length marking		Shall be printed on every meter of length	

CUSTOMER :NCC LIMITED

OUR OFFER NO. GPIL/QS/00003-00023

GUARANTEED TECHNICAL PARTICULARS

REFERENCE NO. :

SL	PARTICULARS	Unit	1C x 50 Sqmm	1C x 240 Sqmm	1C x 400 Sqmm	1C x 630 Sqmm
1.0	Name of the Manufacturer		GUPTA POWER INFRASTRUCTURE LTD.			
2.0	Cable Size	No x sqmm	1 x50	1 x 240	1 x 400	1 x 630
3.0	Type of Cable	-	A2XWaY	A2XWaY	A2XWaY	A2XWaY
4.0	Voltage grade	Volts	1100			
5.0	Whether suitable for Earthed / Unearthed system	-	Both			
6.0	Reference Standard	-	IS:7098(Part-1)/88			
7.0	**CONDUCTOR :**					
7.1	Material of conductor	-	H2 or H4 grade Aluminium to IS.8130 / 84			
7.2	Type of conductor	-				
7.3	No of Wire in conductor (Min.)	no.	6	30	53	53
7.4	Nominal dia of each wire in conductor	mm	Shall be suitably selected to meet Conductor dc resistance as per IS.8130			
7.5	Maximum dc resistance of Conductor at 20^0 C	ohm/km	0.641	0.125	0.0778	0.0469
8.0	**INSULATION :**					
9.0	Material of Insulation	-	XLPE			
9.1	Nominal thickness	mm	1.30	2.0	2.40	2.80
9.2	Core identification scheme	-	Not Applicable			
10.0	Laying up	-	Not Applicable			
11.0	**INNER SHEATH :**					
11.1	Material & Type	-	Not Applicable			
11.2	Minimum thickness	mm	Not Applicable			
12.0	**ARMOUR ::**	-				
12.1	Material & Type	-	Single layer Aluminium Round Wire (Hard Drawn) as per IS 8130			
12.2	Dimension of each armour wire / strip	mm	1.40	1.60	2.0	2.0
13.0	**OUTER SHEATH ::**					
13.1	Material & Type	-	Black PVC Type ST2 ATAR as per IS : 5831/84			
13.2	Minimum thickness	mm	1.24	1.40	1.56	1.72
14.0	Approx overall diameter of cable (+/-2)	mm	16.5	29.0	36.5	43.5
15.0	Continuous current rating :					
15.1	Cables laid in Ground (At temp 30 degC)	Amps	135	332	431	557
15.2	Cables laid in Duct (At temp 30 degC)	Amps	122	299	388	501
15.3	Cables installed in Air (At temp 40 degC)	Amps	150	433	596	814
16.0	Short circuit current rating of main conductor per second	kA/sec	4.7	22.6	37.7	59.4
17.0	Standard Drum length	Mtrs	1000 +/- 5%			
18.0	Volume Resistivity	Ohm-cm	1 x 10^{14} at 27^0C & 1 x 10^{12} at 90^0C			
19.0	H.V. Test	KV rms	3 KV rms for 5 min			
20.0	Embossing details on Outersheath	-	GPIL-RHINO,ELECTRIC, Cable Size, Voltage Grade, DDUGJY,Year of manufacture.			
21.0	Sequential Length Marking		Shall be printed on every meter of length			

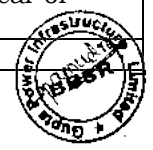
CUSTOMER :NCC LIMITED

OUR OFFER NO. GPIL/QS/00003-00023

GUARANTEED TECHNICAL PARTICULARS

REFERENCE NO. :

SL	PARTICULARS	Unit	1C x 185 Sqmm	1C x 300 Sqmm
1.0	Name of the Manufacturer		GUPTA POWER INFRASTRUCTURE LTD.	
2.0	Cable Size	No x sqmm	1 x 185	1 x 300
3.0	Type of Cable	-	AYWaY	AYWaY
4.0	Voltage grade	Volts	1100	
5.0	Whether suitable for Earthed / Unearthed system	-	Both	
6.0	Reference Standard	-	IS:1554 (Part-1)/88	
7.0	**CONDUCTOR :**			
7.1	Material of conductor	-	H2 or H4 grade Aluminium to IS.8130 / 84	
7.2	Type of conductor	-		
7.3	No of Wire in conductor (Min.)	no.	30	30
7.4	Nominal dia of each wire in conductor	mm	Shall be suitably selected to meet Conductor dc resistance as per IS.8130	
7.5	Maximum dc resistance of Conductor at 20^0 C	ohm/km	0.164	0.100
8.0	**INSULATION :**			
9.0	Material of Insulation	-	PVC Type - A as per IS:5831/84	
9.1	Nominal thickness	mm	2.30	2.70
9.2	Core identification scheme	-	Coloured insulation having colours as Blue or Black	
10.0	Laying up	-	Not Applicable	
11.0	**INNER SHEATH :**			
11.1	Material & Type	-	Not Applicable	
11.2	Minimum thickness	mm	Not Applicable	
12.0	**ARMOUR ::**	-		
12.1	Material & Type	-	Single layer Aluminium Round Wire (Hard Drawn) as per IS 8130	
12.2	Dimension of each armour wire / strip	mm	1.60	1.60
13.0	**OUTER SHEATH ::**			
13.1	Material & Type	-	Black PVC Type ST1 ATAR as per IS : 5831/84	
13.2	Minimum thickness	mm	1.40	1.56
14.0	Approx overall diameter of cable (+/-2)	mm	27.5	33.0
15.0	Continuous current rating :			
15.1	Cables laid in Ground (At temp 30 degC)	Amps	240	295
15.2	Cables laid in Duct (At temp 30 degC)	Amps	210	245
15.3	Cables installed in Air (At temp 40 degC)	Amps	290	380
16.0	Short circuit current rating of main conductor per second	kA/sec	14.02	22.8
17.0	Standard Drum length	Mtrs	1000 +/- 5%	
18.0	Volume Resistivity	Ohm-cm	1 x 10^{13} at 27^0C & 1 x 10^{10} at 70^0C	
19.0	H.V. Test	KV rms	3 KV rms for 5 min	
20.0	Embossing details on Outersheath	-	GPIL-RHINO,ELECTRIC, Cable Size, Voltage Grade,DDUGJY, Year of manufacture.	
21.0	Sequential Length Marking		Shall be printed on every meter of length	



CUSTOMER :NCC LIMITED

OUR OFFER NO. GPIL/QS/00003-00023

GUARANTEED TECHNICAL PARTICULARS

REFERENCE NO. :

SL	PARTICULARS	Unit	3.5C x 25 Sqmm	3.5C x 150 Sqmm	3.5C x 240 Sqmm
1.0	Name of the Manufacturer		GUPTA POWER INFRASTRUCTURE LTD.		
2.0	Cable Size	No x sqmm	3.5 x 25	3.5 x 150	3.5 x 240
3.0	Type of Cable	-	A2XFY	A2XFY	A2XFY
4.0	Voltage grade	Volts	1100		
5.0	Whether suitable for Earthed / Unearthed system	-	Both		
6.0	Reference Standard	-	IS:7098 (Part-1)/88		
7.0	**CONDUCTOR :**				
7.1	Material of conductor	-	H2 or H4 grade Aluminium to IS.8130 / 84		
7.2	Type of conductor	-	Stranded Sector Shaped		
7.3	No of Wire in conductor M/N (Min.)	no.	6/6	15/12	30/15
7.4	Nominal dia of each wire in conductor	mm	Shall be suitably selected to meet conductor dc resistance as per IS.8130		
7.5	Maximum dc resistance of Conductor at 20^0C(M/N)	ohm/km	1.20/1.91	0.206/0.443	0.125/0.253
8.0	**INSULATION :**				
9.0	Material of Insulation	-	XLPE		
9.1	Nominal thickness (M/N)	mm	0.9/0.7	1.40/1.10	1.70/1.20
9.2	Core identification scheme	-	Coloured insulation having colours as Red , Yellow, Blue & reduced core Black		
10.0	Laying up	-	Cores shall be laid up in RH direction with suitable lay		
11.0	**INNER SHEATH :**				
11.1	Material & Type	-	Black Extruded PVC Type ST2 as per IS : 5831/84		
11.2	Minimum thickness	mm	0.3	0.5	0.6
12.0	**ARMOUR ::**	-			
12.1	Material & Type	-	Single layer Flat Galv Steel Strip as per IS 3975		
12.2	Dimension of each armour wire / strip	mm	4.0 X 0.8		
13.0	**OUTER SHEATH ::**				
13.1	Material & Type	-	Black PVC Type ST2 ATAR as per IS : 5831/84		
13.2	Minimum thickness	mm	1.40	1.72	2.04
14.0	Approx overall diameter of cable (+/-2)	mm	22.0	41.5	51.5
15.0	Continuous current rating :				
15.1	Cables laid in Ground (At temp 30 degC)	Amps	94	249	326
15.2	Cables laid in Duct (At temp 30 degC)	Amps	85	224	293
15.3	Cables installed in Air (At temp 40 degC)	Amps	96	292	399
16.0	Short circuit current rating of main conductor per second	kA/sec	2.4	14.2	22.6
17.0	Standard Drum length	Mtrs	1000 +/- 5%	500 +/- 5%	500 +/- 5%
18.0	Volume Resistivity	Ohm-cm	1 x 10^{14} at 27^0C & 1 x 10^{12} at 90^0C		
19.0	H.V. Test	KV rms	3 KV rms for 5 min		
20.0	Embossing details on Outersheath	-	GPIL-RHINO,ELECTRIC, Cable Size, Voltage Grade,DDUGJY Year of manufacture.		
21.0	Sequential Length Marking		Shall be printed on every meter of length		

CUSTOMER :NCC LIMITED

OUR OFFER NO. GPIL/QS/00003-00023

GUARANTEED TECHNICAL PARTICULARS

REFERENCE NO. :

SL	PARTICULARS	Unit	4C x 25 Sqmm
1.0	Name of the Manufacturer		GUPTA POWER INFRASTRUCTURE LTD.
2.0	Cable Size	No x sqmm	4 x 25
3.0	Type of Cable	-	AYFY
4.0	Voltage grade	Volts	1100
5.0	Whether suitable for Earthed / Unearthed system	-	Both
6.0	Reference Standard	-	IS:1554(Part-1)/88
7.0	**CONDUCTOR :**		
7.1	Material of conductor	-	H2 or H4 grade Aluminium to IS.8130 / 84
7.2	Type of conductor	-	Stranded Sector Shaped
7.3	No of Wire in conductor (Min.)	no.	6
7.4	Nominal dia of each wire in conductor	mm	Shall be suitably selected to meet condutor dc resistance as per IS.8130
7.5	Maximum dc resistance of Conductor at 20^0C	ohm/km	1.20
8.0	**INSULATION :**		
9.0	Material of Insulation	-	PVC Type-A as per IS : 5831/84
9.1	Nominal thickness	mm	1.2
9.2	Core identification scheme	-	Coloured insulation having colours as Red, Yellow, Blue & Black
10.0	Laying up	-	Cores shall be laid up in RH direction with suitable lay
11.0	**INNER SHEATH :**		
11.1	Material & Type	-	Black Extruded PVC Type. ST1 as per IS 5831/84
11.2	Minimum thickness	mm	0.3
12.0	**ARMOUR ::**	-	
12.1	Material & Type	-	Single layer Flat galv steel strips as per IS 3975
12.2	Dimension of each armour wire / strip	mm	4.0 X 0.8
13.0	**OUTER SHEATH ::**		
13.1	Material & Type	-	Black PVC Type . ST 1 ATAR as per IS 5831/84
13.2	Minimum thickness	mm	1.40
14.0	Approx overall diameter of cable (+/-2)	mm	24.5
15.0	Continuous current rating :		
15.1	Cables laid in Ground (At temp 30 degC)	Amps	76
15.2	Cables laid in Duct (At temp 30 degC)	Amps	63
15.3	Cables installed in Air (At temp 40 degC)	Amps	70
16.0	Short circuit current rating of main conductor per second	kA/sec	1.90
17.0	Standard Drum length	Mtrs	1000 +/- 5%
18.0	Volume Resistivity	Ohm-cm	1 x 10^{13} at 27^0C & 1 x 10^{10} at 70^0C
19.0	H.V. Test	KV rms	3 KV rms for 5 min
20.0	Embossing details on Outersheath	-	GPIL-RHINO,ELECTRIC, Cable Size, Voltage Grade,DDUGJY, Year of manufacture.
21.0	Sequential Length Marking		Shall be printed on every meter of length

CUSTOMER :NCC LIMITED

OUR OFFER NO. GPIL/QS/00003-00023

GUARANTEED TECHNICAL PARTICULARS

REFERENCE NO. :

SL	PARTICULARS	Unit	4C x 10 Sqmm
1.0	Name of the Manufacturer		GUPTA POWER INFRASTRUCTURE LTD.
2.0	Cable Size	No x sqmm	4 x 10
3.0	Type of Cable	-	AYWY
4.0	Voltage grade	Volts	1100
5.0	Whether suitable for Earthed / Unearthed system	-	Both
6.0	Reference Standard	-	IS:1554(Part-1)/88
7.0	**CONDUCTOR :**		
7.1	Material of conductor	-	H2 or H4 grade Aluminium to IS.8130 / 84
7.2	Type of conductor	-	Stranded Ciruclar
7.3	No of Wire in conductor	no.	7
7.4	Nominal dia of each wire in conductor	mm	1.35
7.5	Maximum dc resistance of Conductor at 20^0C	ohm/km	3.08
8.0	**INSULATION :**		
9.0	Material of Insulation	-	PVC Type-A as per IS : 5831/84
9.1	Nominal thickness	mm	1.0
9.2	Core identification scheme	-	Coloured insulation having colours as Red, Yellow, Blue & Black
10.0	Laying up	-	Cores shall be laid up in RH direction with suitable lay
11.0	**INNER SHEATH :**		
11.1	Material & Type	-	Black Extruded PVC Type ST1 as per IS : 5831/84
11.2	Minimum thickness	mm	0.3
12.0	**ARMOUR ::**	-	
12.1	Material & Type	-	Single layer Round Galv Steel Wire as per IS 3975
12.2	Dimension of each armour wire / strip	mm	1.60
13.0	**OUTER SHEATH ::**		
13.1	Material & Type	-	Black PVC Type ST1 ATAR as per IS : 5831/84
13.2	Minimum thickness	mm	1.40
14.0	Approx overall diameter of cable (+/-2)	mm	22.0
15.0	Continuous current rating :		
15.1	Cables laid in Ground (At temp 30 degC)	Amps	46
15.2	Cables laid in Duct (At temp 30 degC)	Amps	39
15.3	Cables installed in Air (At temp 40 degC)	Amps	40
16.0	Short circuit current rating of main conductor per second	kA/sec	0.76
17.0	Standard Drum length	Mtrs	1000 +/- 5%
18.0	Volume Resistivity	Ohm-cm	1 x 10^{13} at 27^0C & 1 x 10^{10} at 70^0C
19.0	H.V. Test	KV rms	3 KV rms for 5 min
20.0	Marking details on Outersheath	-	GPIL-RHINO,ELECTRIC, Cable Size, Voltage Grade,DDUGJY, Year of manufacture.
21.0	Sequential Length Marking		Shall be printed on every meter of length

CUSTOMER :NCC LIMITED

OUR OFFER NO. GPIL/QS/00003-00023

GUARANTEED TECHNICAL PARTICULARS

REFERENCE NO. :

SL	PARTICULARS	Unit	2C x 10 Sqmm
1.0	Name of the Manufacturer		GUPTA POWER INFRASTRUCTURE LTD.
2.0	Cable Size	No x sqmm	2 x 10
3.0	Type of Cable	-	AYWY
4.0	Voltage grade	Volts	1100
5.0	Whether suitable for Earthed / Unearthed system	-	Both
6.0	Reference Standard	-	IS:1554(Part-1)/88
7.0	**CONDUCTOR :**		
7.1	Material of conductor	-	H2 or H4 grade Aluminium to IS.8130 / 84
7.2	Type of conductor	-	Stranded Ciruclar
7.3	No of Wire in conductor	no.	7
7.4	Nominal dia of each wire in conductor	mm	1.35
7.5	Maximum dc resistance of Conductor at 20^0C	ohm/km	3.08
8.0	**INSULATION :**		
9.0	Material of Insulation	-	PVC Type-A as per IS : 5831/84
9.1	Nominal thickness	mm	1.0
9.2	Core identification scheme	-	Coloured insulation having colours as Red & Black
10.0	Laying up	-	Cores shall be laid up in RH direction with suitable lay
11.0	**INNER SHEATH :**		
11.1	Material & Type	-	Black Extruded PVC Type ST1 as per IS : 5831/84
11.2	Minimum thickness	mm	0.3
12.0	**ARMOUR ::**	-	
12.1	Material & Type	-	Single layer Round Galv Steel Wire as per IS 3975
12.2	Dimension of each armour wire / strip	mm	1.40
13.0	**OUTER SHEATH ::**		
13.1	Material & Type	-	Black PVC Type ST1 ATAR as per IS : 5831/84
13.2	Minimum thickness	mm	1.24
14.0	Approx overall diameter of cable (+/-2)	mm	19.0
15.0	Continuous current rating :		
15.1	Cables laid in Ground (At temp 30 degC)	Amps	55
15.2	Cables laid in Duct (At temp 30 degC)	Amps	45
15.3	Cables installed in Air (At temp 40 degC)	Amps	47
16.0	Short circuit current rating of main conductor per second	kA/sec	0.76
17.0	Standard Drum length	Mtrs	1000 +/- 5%
18.0	Volume Resistivity	Ohm-cm	1 x 10^{13} at 27^0C & 1 x 10^{10} at 70^0C
19.0	H.V. Test	KV rms	3 KV rms for 5 min
20.0	Marking details on Outersheath	-	GPIL-RHINO,ELECTRIC, Cable Size, Voltage Grade,DDUGJY, Year of manufacture.
21.0	Sequential Length Marking		Shall be printed on every meter of length