

Subhead-1

Wiring & Cables

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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1.1 POINT WIRING

CHANNEL POINT WIRING (BYM)(WITHOUT SWITCH)

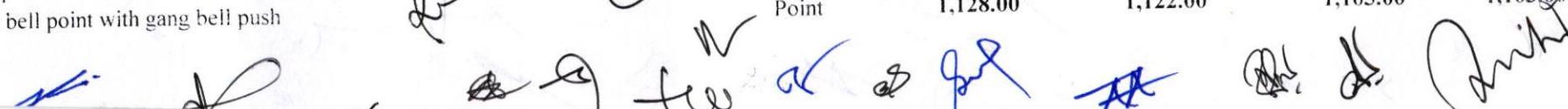
Surface channel wiring for the following point looping at the switch board with earth terminal with 1C-2x1.5 sqmm PVC insulated and sheathed stranded cable (BYM) and 1C-1x1.5 sqmm PVC insulated ECC(BYA) (Green / Yellow bi-colour) including circuit wiring(From SDB to Switch Board) with 1C-2x2.5 sqmm PVC insulated and sheathed stranded cable (BYM) & 1C-2x2.5 sqmm PVC insulated ECC(BYA) Green / Yellow bi-colour through minimum 1 mm thick PVC channel complete with 18 SWG GP sheet / PVC switch board (preferably concealed) with 3mm thick ebonite sheet cover, circular box, without switch, fixing materials, other accessories etc. as required and mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standard along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.1.1 Cables manufactured by Govt. of Bangladesh owned / shared company Ltd.
(Eastern cables) approved by the Engineer In Charge.

1.1.1.1	Light / exhaust or wall bracket fan point	Point	1,203.00	1,197.00	1,178.00	1,178.00
1.1.1.2	Fan point	Point	1,203.00	1,197.00	1,178.00	1,178.00
1.1.1.3	Call bell point with gang bell push	Point	1,236.00	1,231.00	1,221.00	1,221.00

1.1.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge.

1.1.2.1	Light / exhaust or wall bracket fan point	Point	1,097.00	1,092.00	1,072.00	1,072.00
1.1.2.2	Fan point	Point	1,097.00	1,092.00	1,072.00	1,072.00
1.1.2.3	Call bell point with gang bell push	Point	1,128.00	1,122.00	1,103.00	1,103.00


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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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1.2 SURFACE CONDUIT POINT WIRING (BYM) (WITHOUT SWITCH)

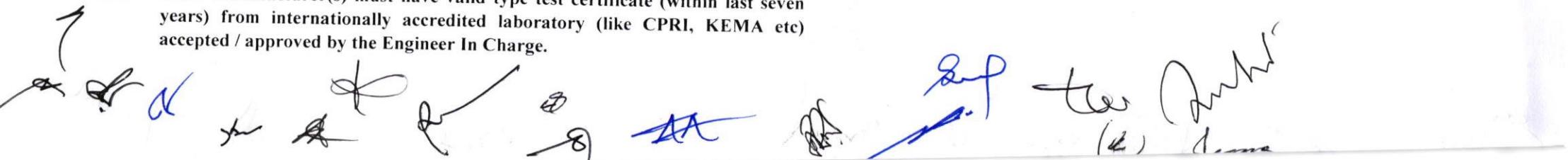
Surface conduit wiring for following point looping at the switch board with earth terminal with 1C-2x1.5 sqmm PVC insulated and sheathed stranded cable (BYM) & 1C-2x1.5 sqmm PVC insulated ECC(BYA) (Green / Yellow bi-colour) including circuit wiring (From SDB to Switch Board) with 1C-2x2.5 sqmm PVC insulated and sheathed stranded cable (BYM) & 1C-2x2.5 sqmm PVC insulated ECC(BYA) Green / Yellow bi-colour through PVC conduit (one conduit from switch board to common point on ceiling is considered to draw 3 pair of cable) of reputed manufacturer of minimum 16-25 mm inner dia as required with 1.5

mm wall thickness complete with 18 SWG GP sheet / PVC switch board and pull box (preferably concealed) with 3mm thick ebonite sheet cover, without switch, fixing materials, other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-I. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.2.1 Cables manufactured by Govt. of Bangladesh owned / shared company Ltd. (Eastern Cables) approved by the Engineer In Charge

1.2.1.1 Light / Exhaust or wall bracket Fan point	Point	1,305.00	1,300.00	1,279.00	1,279.00
1.2.1.2 Fan point	Point	1,305.00	1,300.00	1,279.00	1,279.00
1.2.1.3 Call Bell point with gang bell push	Point	1,377.00	1,372.00	1,350.00	1,350.00

1.2.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge.



Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.2.2.1	Light / exhaust or wall bracket fan point	Point	1,194.00	1,189.00	1,168.00	1,168.00
1.2.2.2	Fan point	Point	1,194.00	1,189.00	1,168.00	1,168.00
1.2.2.3	Call bell point with gang bell push	Point	1,266.00	1,261.00	1,240.00	1,240.00

1.3 SUFACE CONDUIT POINT WIRING (BYA) (WITHOUT SWITCH)

Surface conduit wiring for following point looping at the switch board with earth terminal with 1C-2x1.5 sqmm PVC insulated cable (BYA) & 1C-2x1.5 sqmm PVC insulated ECC (BYA) (Green / Yellow bi-colour) including circuit wiring (From SDB to Switch Board) with 1C-2x2.5 sqmm PVC insulated cable (BYA) & 1C-2x2.5 sqmm PVC insulated ECC (BYA) Green / Yellow bi-colour through PVC conduit (one conduit from switch board to common point on ceiling is considered to draw 3 pair of cable) of reputed manufacturer of minimum 25 mm inner dia with 1.5 mm wall thickness complete with 18 SWG GP sheet / PVC switch board and pull box (preferably concealed) with 3 mm thick ebonite sheet cover, without switch, fixing materials, other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.3.1 Cables manufactured by Govt. of Bangladesh owned / shared company Ltd. (Eastern cables) approved by the Engineer In Charge.

1.3.1.1	Light / Exhaust or wall bracket fan point	Point	1,179.00	1,174.00	1,153.00	1,153.00
1.3.1.2	Fan point	Point	1,179.00	1,174.00	1,153.00	1,153.00
1.3.1.3	Call bell point with gang bell push	Point	1,251.00	1,246.00	1,224.00	1,224.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.3.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge					
1.3.2.1	Light / exhaust or wall bracket fan point	Point	1,093.00	1,089.00	1,067.00	1,067.00
1.3.2.2	Fan point	Point	1,093.00	1,089.00	1,067.00	1,067.00
1.3.2.3	Call bell point with gang bell push	Point	1,165.00	1,160.00	1,139.00	1,139.00

1.4 SURFACE CONDUIT POINT WIRING (FR) (WITHOUT SWITCH)

Surface conduit wiring for following point looping at the switch board with earth terminal with 1C-2x1.5 sqmm fire & flame retardant (FR), PVC insulated and stranded cable & 1C-2x1.5 sqmm FR PVC insulated ECC Green / Yellow bi-colour including circuit wiring (From SDB to Switch Board) with 1C-2x2.5 sqmm fire & flame retardant (FR) insulated and stranded cable & 1C-2x2.5 sqmm FR PVC insulated ECC (Green / Yellow bi-colour) through PVC conduit (one conduit from switch board to common point on ceiling is considered to draw 3 pairs cable) of reputed manufacturer of minimum 25 mm inner dia with 1.7 mm wall thickness complete with 18 SWG GP sheet / PVC switch board and pull box (preferably concealed) with 3 mm thick ebonite sheet cover, without switch, fixing materials, other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

- 1.4.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.4.1.1	Light / exhaust or wall bracket fan point	Point	1,310.00	1,305.00	1,284.00	1,284.00
1.4.1.2	Fan point	Point	1,310.00	1,305.00	1,284.00	1,284.00
1.4.1.3	Call bell point with gang bell push	Point	1,392.00	1,387.00	1,366.00	1,366.00
1.4.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge						
1.4.2.1	Light / exhaust or wall bracket fan point	Point	1,168.00	1,163.00	1,142.00	1,142.00
1.4.2.2	Fan point	Point	1,168.00	1,163.00	1,142.00	1,142.00
1.4.2.3	Call bell point with gang bell push	Point	1,240.00	1,235.00	1,214.00	1,214.00

1.5 SURFACE CONDUIT POINT WIRING (ZERO HALOGEN)(WITHOUT SWITCH)

Surface conduit wiring for following point looping at the switch board with earth terminal with 1C-2x1.5 sqmm with following Zero Halogen polyolefine (BYA-LS Zero Halogen) and 1C-2x1.5 sqmm Zero Halogen polyolefine ECC wire including circuit wiring (From SDB to Switch Board) with 1C-2x2.5 sqmm with Zero Halogen polyolefine (BYA-LS Zero Halogen) and 1C-2x2.5 sqmm Zero Halogen polyolefine ECC wire through PVC conduit (one conduit from switch board to common point on ceiling is considered to draw 3 pair of cable) of reputed manufacturer of minimum 25 mm inner dia with 1.7 mm wall thickness complete with 18 SWG GP sheet switch board and pull box (preferably concealed) with 3 mm thick ebonite sheet cover, without switch, fixing materials, other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.5.1	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge					
1.5.1.1	Light / Exhaust or wall bracket Fan point	Point	1,160.00	1,160.00	1,160.00	1,160.00
1.5.1.2	Fan point	Point	1,160.00	1,160.00	1,160.00	1,160.00
1.5.1.3	Call Bell point with gang bell push	Point	1,232.00	1,232.00	1,232.00	1,232.00

1.6 CONCEALED CONDUIT POINT WIRING (BYM) (WITHOUT SWITCH)

Concealed conduit wiring for following point looping at the switch board with earth terminal with 1C-2x1.5 sqmm PVC insulated and sheathed stranded cable (BYM) & 1C-2x1.5 sqmm PVC insulated ECC (BYA) (Green / Yellow bi-colour) including circuit wiring with (From SDB to Switch Board) 1C-2x2.5 sqmm PVC insulated and sheathed stranded cable (BYM) & 1C-2x2.5 sqmm PVC insulated ECC (BYA) Green / Yellow bi-colour through PVC conduit (one conduit from switch board to common point on

ceiling is considered to draw 3 pair of cable) of reputed manufacturer of minimum 25 mm dia & 1.7 mm wall thickness complete with 18 SWG GP sheet / PVC switch board & pull box with 3mm thick ebonite sheet cover, without switch, fixing materials etc.(without switch) as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.6.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.

1.6.1.1	Light / exhaust or wall bracket fan point	Point	1,372.00	1,367.00	1,341.00	1,341.00
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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.6.1.2	Fan point	Point	1,372.00	1,367.00	1,341.00	1,341.00
1.6.1.3	Call bell point with gang bell push	Point	1,444.00	1,438.00	1,413.00	1,413.00
1.6.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge						
1.6.2.1	Light/ exhaust or wall bracket fan point	Point	1,261.00	1,255.00	1,230.00	1,230.00
1.6.2.2	Fan point	Point	1,261.00	1,255.00	1,230.00	1,230.00
1.6.2.3	Call bell point with gang bell push	Point	1,333.00	1,327.00	1,302.00	1,302.00

1.7 CONCEALED CONDUIT POINT WIRING (BYA)(WITHOUT SWITCH)

Concealed conduit wiring for following point looping at the switch board with earth terminal with 1C-2x1.5 sqmm PVC insulated cable (BYA) & 1C-2x1.5 sqmm PVC insulated ECC(BYA) Green / Yellow bi-colour including circuit wiring (From SDB to Switchboard) with 1C-2x2.5 sqmm PVC insulated cable (BYA) & 1C-2x2.5 sqmm PVC insulated ECC (BYA) (Green / Yellow bi-colour) through PVC conduit (one conduit from switch board to common point on ceiling is considered to draw 3 pair of cable) of reputed manufacturer of minimum 25 mm dia & 1.7 mm wall thickness complete with 18 SWG GP sheet / PVC switch board pull box with 3mm thick ebonite sheet cover, fixing materials etc.(without switch) as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standard along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

thickness complete with 18 SWG GP sheet / PVC switch board pull box with 3mm thick ebonite sheet cover, fixing materials etc.(without switch) as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standard along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.7.1 Cables manufactured by Govt. of Bangladesh owned / shared company Ltd. (Eastern cables) approved by the Engineer In Charge.

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.7.1.1	Light / exhaust or wall bracket fan point	Point	1,246.00	1,241.00	1,215.00	1,215.00
1.7.1.2	Fan point	Point	1,246.00	1,241.00	1,215.00	1,215.00
1.7.1.3	Call bell point with gang bell push	Point	1,318.00	1,312.00	1,287.00	1,287.00
1.7.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge						
1.7.2.1	Light / exhaust or wall bracket fan point	Point	1,160.00	1,155.00	1,130.00	1,130.00
1.7.2.2	Fan point	Point	1,160.00	1,155.00	1,130.00	1,130.00
1.7.2.3	Call bell point with gang bell push	Point	1,232.00	1,227.00	1,201.00	1,201.00

**1.8 WIRING FOR POINT, CIRCUIT, POWER, SUB-MAIN, FEEDERS ETC.
CHANNEL WIRING (BYM)**

Surface channel wiring with the following PVC insulated and sheathed stranded cable (BYM) & Green / Yellow bi-colour PVC insulated ECC wire (BYA), through minimum 1 mm thick PVC channel complete with fixing materials, other accessories etc. as required including mending the damages good.

All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

**1.8.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd.
(Eastern cables) approved by the Engineer In Charge.**

1.8.1.1	1C-2x1.5 sqmm (BYM) cable with 1.5 sqmm (BYA) ECC wire	Meter	151.00	151.00	149.00	149.00
1.8.1.2	1C-2x2.5 sqmm (BYM) cable with 2.5 sqmm (BYA) ECC wire	Meter	208.00	207.00	206.00	206.00

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1.8.1.3	1C-2x4 sqmm (BYM) cable with 4 sqmm (BYA) ECC wire	Meter	301.00	300.00	299.00	299.00
1.8.1.4	1C-2x6 sqmm (BYM) cable with 6 sqmm (BYA) ECC wire	Meter	419.00	419.00	417.00	417.00
1.8.1.5	1C-2x10 sqmm (BYM) cable with 10 sqmm (BYA) ECC wire	Meter	647.00	646.00	645.00	645.00

1.8.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge.

1.8.2.1	1C-2x1.5 sqmm (BYM) cable with 1.5 sqmm (BYA) ECC wire	Meter	136.00	135.00	134.00	134.00
1.8.2.2	1C-2x2.5 sqmm (BYM) cable with 2.5 sqmm (BYA) ECC wire	Meter	188.00	188.00	186.00	186.00
1.8.2.3	1C-2x4 sqmm (BYM) cable with 4 sqmm (BYA) ECC wire	Meter	267.00	267.00	265.00	265.00
1.8.2.4	1C-2x6 sqmm (BYM) cable with 6 sqmm (BYA) ECC wire	Meter	372.00	371.00	370.00	370.00
1.8.2.5	1C-2x10 sqmm (BYM) cable with 10 sqmm (BYA) ECC wire	Meter	579.00	578.00	577.00	577.00

1.9 Channel WIRING (BYA)

Surface channel wiring with the following PVC insulated stranded cable (BYA) & Green / Yellow bi-colour PVC insulated ECC wire (BYA) through minimum 1 mm thick PVC channel complete with fixing materials, other accessories etc. as required including mending damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.9.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.

1.9.1.1	1C-2x1.5 sq. mm (BYA) cable with 1.5 sqmm (BYA) ECC wire	Meter	133.00	133.00	131.00	131.00
1.9.1.2	1C-2x2.5 sq. mm (BYA) cable with 2.5sqmm (BYA) ECC wire	Meter	190.00	189.00	188.00	188.00
1.9.1.3	1C- 2x4 sq. mm (BYA) cable with 4 sqmm (BYA) ECC wire.	Meter	282.00	282.00	281.00	281.00
1.9.1.4	1C-2x6 sq. mm (BYA) cable with 6 sqmm (BYA) ECC wire	Meter	406.00	406.00	405.00	405.00

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.9.1.5	1C-2x10 sqmm (BYM) cable with 10 sqmm (BYA) ECC wire	Meter	647.00	646.00	645.00	645.00

* **1.9.2** **Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge**

1.9.2.1	1C-2x1.5 sq. mm (BYA) cable with 1.5 sqmm (BYA) ECC wire	Meter	122.00	121.00	120.00	120.00
1.9.2.2	1C-2x2.5 sq. mm (BYA) cable with 2.5 sqmm (BYA) ECC wire	Meter	172.00	172.00	170.00	170.00
1.9.2.3	1C-2x4 sq. mm (BYA) cable with 4 sqmm (BYA) ECC wire.	Meter	248.00	248.00	246.00	246.00
1.9.2.4	1C-2x6 sq. mm (BYA) cable with 6 sqmm (BYA) ECC wire	Meter	351.00	351.00	350.00	350.00
1.9.2.5	1C-2x10 sqmm (BYM) cable with 10 sqmm (BYA) ECC wire	Meter	567.00	567.00	566.00	566.00

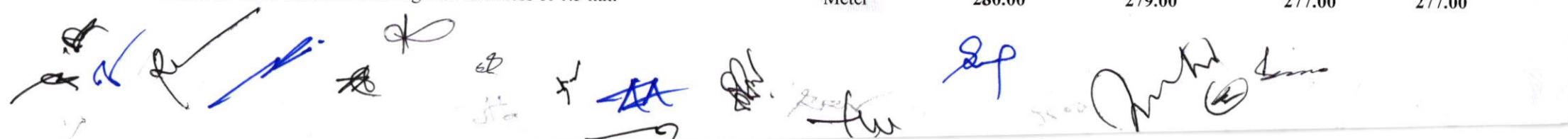
1.10 SURFACE WIRING (BYM) (THROUGH PVC CONDUIT)

Surface conduit wiring with the following PVC insulated and sheathed cable (BYM) & Green / Yellow bi-colour PVC insulated ECC wire (BYA) through PVC conduit of reputed manufacturer complete with 18 SWG GP sheet pull box with 3 mm thick ebonite sheet cover, fixing materials, other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant

BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.10.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.

1.10.1.1	1C-2x1.5sqmm (BYM) cable with 1.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	208.00	207.00	205.00	205.00
1.10.1.2	1C-2x2.5 sqmm (BYM) cable with 2.5 sqmm (BYA)ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.5 mm	Meter	280.00	279.00	277.00	277.00



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1.10.1.3	1C-2x4.0 sqmm (BYM) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	372.00	371.00	368.00	368.00
1.10.1.4	1C-2x6.0 sqmm (BYM) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	501.00	501.00	498.00	498.00
1.10.1.5	1C-2x10 sqmm (BYM) cable with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	769.00	768.00	765.00	765.00
1.10.1.6	1C-2x16 sqmm (BYM) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,143.00	1,142.00	1,138.00	1,138.00
1.10.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge					
1.10.2.1	1C-2x1.5 sqmm (BYM) cable with 1.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	192.00	191.00	189.00	189.00
1.10.2.2	1C-2x2.5sqmm (BYM) cable with 2.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	261.00	260.00	257.00	257.00
1.10.2.3	1C-2x4.0 sqmm (BYM) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	338.00	338.00	335.00	335.00
1.10.2.4	1C-2x6.0 sqmm (BYM) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	436.00	435.00	433.00	433.00
1.10.2.5	1C-2x10sqmm (BYM) cable with 10sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.7 mm	Meter	683.00	682.00	679.00	679.00
1.10.2.6	1C-2x16 sqmm (BYM) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 1.9 mm	Meter	1,041.00	1,040.00	1,037.00	1,037.00
1.11	<u>SURFACE WIRING (BYA) (THROUGH PVC CONDUIT)</u>					

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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Surface conduit wiring with the following PVC insulated cable (BYA) & PVC insulated Green / Yellow bi-colour ECC wire (BYA) through PVC conduit of reputed manufacturer complete with 18 SWG GP sheet pull box with 3mm thick ebonite sheet cover, fixing materials, other accessories etc. including mending the damages good as required. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

**1.11.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd.
(Eastern cables) approved by the Engineer In Charge.**

1.11.1.1	1C-2x1.5sqmm (BYA) cable with 1.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	183.00	182.00	180.00	180.00
1.11.1.2	1C-2x2.5sqmm (BYA) cable with 2.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	255.00	255.00	252.00	252.00
1.11.1.3	1C-2x4.0 sqmm (BYA) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.5 mm	Meter	320.00	319.00	316.00	316.00
1.11.1.4	1C-2x6.0 sqmm (BYA) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	478.00	477.00	474.00	474.00
1.11.1.5	1C-2x10 sqmm (BYA) cable with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	728.00	727.00	724.00	724.00
1.11.1.6	1C-2x16 sqmm (BYA) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,110.00	1,109.00	1,105.00	1,105.00

7 1.11.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge

1.11.2.1	1C-2x1.5sqmm (BYA) cable with 1.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	171.00	171.00	168.00	168.00
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Subhead 1

PWD SoR 2022 For E/M Works

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.11.2.2	1C-2x2.5sqmm (BYA) cable with 2.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm		238.00	237.00	235.00	235.00
1.11.2.3	1C-2x4.0 sqmm (BYA) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm		320.00	319.00	316.00	316.00
1.11.2.4	1C-2x6.0 sqmm (BYA) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	423.00	422.00	419.00	419.00
1.11.2.5	1C-2x10 sqmm (BYA) cable with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 31 mm having wall thickness of 1.9 mm	Meter	658.00	657.00	654.00	654.00
1.11.2.6	1C-2x16 sqmm (BYA) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,005.00	1,004.00	1,001.00	1,001.00

1.12 SURFACE WIRING (FR) (THROUGH PVC CONDUIT)

Surface conduit wiring with the following Fire & Flame Retardant (FR) (PVC) insulated and stranded cable and FR (PVC) insulated ECC wire connecting at both ends through PVC conduit of reputed manufacturer complete with 18 SWG GP sheet pull box with 3 mm thick ebonite sheet cover, fixing materials, other accessories etc. including mending the damages good as required.

All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

**1.12.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd.
(Eastern cables) approved by the Engineer In Charge.**

1.12.1.1	1C-2x1.5 sqmm (FR) cable with 1.5 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	200.00	199.00	196.00	196.00
1.12.1.2	1C-2x2.5 sqmm (FR) cable with 2.5 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	270.00	270.00	267.00	267.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.12.1.3	1C-2x4.0 sqmm (FR) cable with 4 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	361.00	360.00	357.00	357.00
1.12.1.4	1C-2x6.0 sqmm (FR) cable with 6 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	480.00	479.00	476.00	476.00
1.12.1.5	1C-2x10 sqmm (FR) cable with 10 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	734.00	733.00	730.00	730.00
1.12.1.6	1C-2x16 sqmm (FR) cable with 16 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,127.00	1,126.00	1,123.00	1,123.00
1.12.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge					
1.12.2.1	1C-2x1.5 sqmm (FR) cable with 1.5 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	189.00	188.00	185.00	185.00
1.12.2.2	1C-2x2.5 sqmm (FR) cable with 2.5 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	257.00	256.00	253.00	253.00
1.12.2.3	1C-2x4.0 sqmm (FR) cable with 4 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	335.00	334.00	332.00	332.00
1.12.2.4	1C-2x6.0 sqmm (FR) cable with 6 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	443.00	442.00	439.00	439.00
1.12.2.5	1C-2x10 sqmm (FR) cable with 10 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	663.00	662.00	659.00	659.00
1.12.2.6	1C-2x16 sqmm (FR) cable with 16 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,051.00	1,050.00	1,047.00	1,047.00
1.13	<u>SURFACE WIRING (ZERO HALOGEN)(THROUGH PVC CONDUIT)</u>					



Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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Surface conduit wiring with the following Zero Halogen polyolefine (BYA-LS Zero Halogen) and Zero Halogen polyolefine ECC wire connecting at both ends through PVC conduit of reputed manufacturer complete with 18 SWG GP sheet pull box with 3 mm thick ebonite sheet cover, fixing materials, other accessories etc. including mending the damages good as required. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1 The work shall be carried out as per direction & approval of the Engineer In Charge.

1.13.1 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge

1.13.1.1 1C-2x1.5 sqmm (Zero Halogen) cable with 1.5 sqmm (Zero Halogen) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm

Meter	189.00	188.00	186.00	186.00
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1.13.1.2 1C-2x2.5 sqmm (Zero Halogen) cable with 2.5 sqmm (Zero Halogen) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm

Meter	261.00	260.00	257.00	257.00
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1.13.1.3 1C-2x4.0 sqmm (Zero Halogen) cable with 4 sqmm (Zero Halogen) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm

Meter	350.00	349.00	346.00	346.00
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1.13.1.4 1C-2x6.0 sqmm (Zero Halogen) cable with 6 sqmm (Zero Halogen) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm

Meter	463.00	462.00	459.00	459.00
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1.13.1.5 1C-2x10 sqmm (Zero Halogen) cable with 10 sqmm (Zero Halogen) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm

Meter	722.00	721.00	718.00	718.00
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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.13.1.6	1C-2x16 sqmm (Zero Halogen) cable with 16 sqmm (Zero Halogen) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,121.00	1,120.00	1,117.00	1,117.00

1.14 SURFACE WIRING (NYY) (THROUGH PVC CONDUIT)

Surface conduit wiring with the following PVC insulated and sheathed stranded cable (NYY) / XLPE insulated and PVC sheathed stranded cable (2XY) & PVC insulated Green / Yellow bi-colour

ECC wire (BYA) through PVC conduit of reputed manufacturer complete with fixing materials, other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-I. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.14.1 Cables manufactured by Govt. of Bangladesh owned / shared company Ltd. (Eastern cables) approved by the Engineer In Charge.

1.14.1.1	1C-4x2.5sqmm (NYY) with 2.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	563.00	562.00	559.00	559.00
1.14.1.2	1C-4x4sqmm (NYY) with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	742.00	741.00	738.00	738.00
1.14.1.3	1C-4x6sqmm (NYY) with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	996.00	994.00	991.00	991.00
1.14.1.4	1C-4x10sqmm (NYY) with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,345.00	1,344.00	1,339.00	1,339.00
1.14.1.5	1C-4x16sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	2,036.00	2,034.00	2,030.00	2,030.00
1.14.1.6	1C-4x25sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm	Meter	2,892.00	2,891.00	2,886.00	2,886.00

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.14.1.7	1C-4x35sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm	Meter	3,719.00	3,718.00	3,713.00	3,713.00
1.14.1.8	1C-4x50sqmm (NYY) with 25 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm having wall thickness of 2.9 mm	Meter	5,236.00	5,235.00	5,230.00	5,230.00
1.14.1.9	1C-4x70sqmm (NYY) with 35 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm having wall thickness of 2.9 mm	Meter	7,188.00	7,186.00	7,181.00	7,181.00
1.14.1.10	1C-4x95sqmm (NYY) with 50 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm	Meter	9,500.00	9,498.00	9,493.00	9,493.00
1.14.1.11	1C-4x120sqmm (NYY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm	Meter	12,202.00	12,200.00	12,194.00	12,194.00
1.14.1.12	1C-4x150sqmm (NYY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm having wall thickness of 3.4 mm	Meter	14,878.00	14,876.00	14,870.00	14,870.00
1.14.1.13	1C-4x185sqmm (NYY) with 95 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm having wall thickness of 3.4mm	Meter	18,846.00	18,844.00	18,838.00	18,838.00
1.14.1.14	1C-4x240sqmm (NYY) with 120 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm	Meter	24,191.00	24,188.00	24,180.00	24,180.00
1.14.1.15	1C-4x300sqmm (NYY) with 120 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm	Meter	29,674.00	29,672.00	29,663.00	29,663.00
1.14.1.16	1C-4x400sqmm (NYY) with 185 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm	Meter	38,919.00	38,917.00	38,908.00	38,908.00
1.14.1.17	1C-4x500sqmm (NYY) with 240 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 150 mm having wall thickness of 4.5 mm	Meter	47,743.00	47,740.00	47,732.00	47,732.00
1.14.1.18	1C-4x630sqmm (NYY) with 300 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 200 mm having wall thickness of 5.3 mm	Meter	60,651.00	60,648.00	60,640.00	60,640.00
1.14.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge					
1.14.2.1	1C-4x2.5sqmm (NYY / 2XY) with 2.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	484.00	483.00	479.00	479.00
1.14.2.2	1C-4x4sqmm (NYY / 2XY) with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	624.00	622.00	619.00	619.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.14.2.3	1C-4x6sqmm (NYY / 2XY) with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	814.00	813.00	810.00	810.00
1.14.2.4	1C-4x10sqmm (NYY / 2XY) with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,204.00	1,203.00	1,198.00	1,198.00
1.14.2.5	1C-4x16sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,711.00	1,710.00	1,706.00	1,706.00
1.14.2.6	1C-4x25sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm	Meter	2,445.00	2,444.00	2,439.00	2,439.00
1.14.2.7	1C-4x35sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm	Meter	3,092.00	3,091.00	3,086.00	3,086.00
1.14.2.8	1C-4x50sqmm (NYY / 2XY) with 25 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm having wall thickness of 3 mm.	Meter	4,267.00	4,266.00	4,261.00	4,261.00
1.14.2.9	1C-4x70sqmm (NYY / 2XY) with 35 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm having wall thickness of 3 mm	Meter	5,896.00	5,895.00	5,889.00	5,889.00
1.14.2.10	1C-4x95sqmm (NYY / 2XY) with 50 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm	Meter	7,798.00	7,796.00	7,791.00	7,791.00
1.14.2.11	1C-4x120sqmm (NYY / 2XY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm	Meter	9,745.00	9,743.00	9,738.00	9,738.00
1.14.2.12	1C-4x150sqmm (NYY / 2XY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm	Meter	11,941.00	11,939.00	11,933.00	11,933.00
1.14.2.13	1C-4x185sqmm (NYY / 2XY) with 95 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm having wall thickness of 3.4 mm	Meter	14,709.00	14,707.00	14,701.00	14,701.00
1.14.2.14	1C-4x240sqmm (NYY / 2XY) with 120 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm	Meter	19,351.00	19,349.00	19,340.00	19,340.00
1.14.2.15	1C-4x300sqmm (NYY / 2XY) with 150 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm	Meter	23,738.00	23,736.00	23,727.00	23,727.00
1.14.2.16	1C-4x400sqmm (NYY / 2XY) with 185 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm	Meter	30,926.00	30,924.00	30,915.00	30,915.00
1.14.2.17	1C-4x500sqmm (NYY / 2XY) with 240 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 150 mm having wall thickness of 4.5 mm	Meter	38,461.00	38,458.00	38,450.00	38,450.00
1.14.2.18	1C-4x630sqmm (NYY / 2XY) with 300 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 200 mm having wall thickness of 5.3 mm	Meter	48,624.00	48,621.00	48,613.00	48,613.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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1.15 CONCEALED WIRING (BYM)

Concealed conduit wiring with following PVC insulated and sheathed stranded cable (BYM) & PVC insulated Green / Yellow bi- coloured ECC wire (BYA) through PVC conduit of reputed manufacturer complete with 18 SWG GP sheet pull box with 3mm thick ebonite sheet cover, fixing materials etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-I. The work shall be carried out as per direction & approval of the Engineer In Charge.

**1.15.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd.
(Eastern cables) approved by the Engineer In Charge.**

1.15.1.1	1C-2x1.5sqmm (BYM) cable with 1.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	223.00	222.00	217.00	217.00
1.15.1.2	1C-2x2.5sqmm(BYM) cable with 2.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	297.00	296.00	291.00	291.00
1.15.1.3	1C-2x4.0 sqmm (BYM) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	405.00	404.00	398.00	398.00
1.15.1.4	1C-2x6.0 sqmm (BYM) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	540.00	538.00	532.00	532.00
1.15.1.5	1C-2x10sqmm(BYM) cable with 10sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	776.00	774.00	767.00	767.00
1.15.1.6	1C-2x16 sqmm (BYM) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	1,147.00	1,146.00	1,139.00	1,139.00

1.15.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.15.2.1	1C-2x1.5sqmm (BYM) cable with 1.5sqmm(BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	208.00	207.00	202.00	202.00
1.15.2.2	1C-2x2.5sqmm (BYM) cable with 2.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	261.00	259.00	254.00	254.00
1.15.2.3	1C-2x4.0 sqmm (BYM) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	372.00	370.00	364.00	364.00
1.15.2.4	1C-2x6.0 sqmm (BYM) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	492.00	491.00	485.00	485.00
1.15.2.5	1C-2x10sqmm (BYM) cable with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	708.00	706.00	699.00	699.00
1.15.2.6	1C-2x16 sqmm (BYM) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	1,046.00	1,044.00	1,038.00	1,038.00

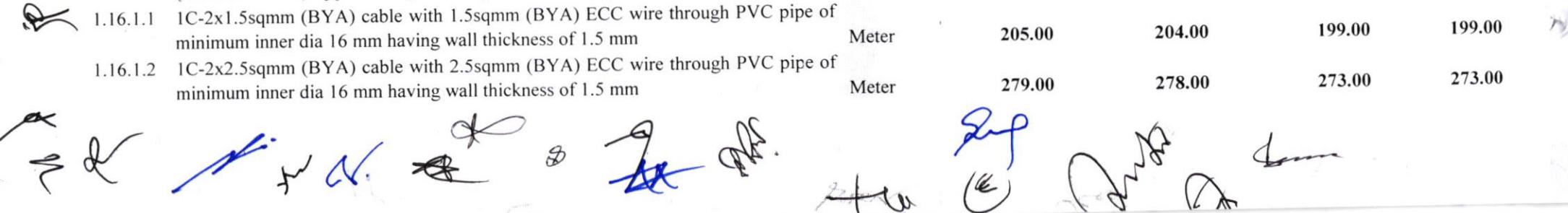
1.16 CONCEALED WIRING (BYA)

Concealed conduit wiring with the following PVC insulated stranded cable (BYA) & PVC insulated Green / Yellow bi-colour ECC wire (BYA) through PVC conduit of reputed manufacturer complete with 18 SWG GP sheet pull box with 3mm thick ebonite sheet cover, fixing materials, other accessories etc. as required including mending the damages good.

All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.16.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.

1.16.1.1	1C-2x1.5sqmm (BYA) cable with 1.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	205.00	204.00	199.00	199.00
1.16.1.2	1C-2x2.5sqmm (BYA) cable with 2.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	279.00	278.00	273.00	273.00



Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chatogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.16.1.3	1C-2x4.0 sqmm (BYA) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	387.00	386.00	380.00	380.00
1.16.1.4	1C-2x6.0 sqmm (BYA) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	527.00	526.00	519.00	519.00
1.16.1.5	1C-2x10 sqmm (BYA) cable with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	752.00	750.00	744.00	744.00
1.16.1.6	1C-2x16 sqmm (BYA) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	1,114.00	1,113.00	1,106.00	1,106.00
1.16.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge					
1.16.2.1	1C-2x1.5sqmm (BYA) cable with 1.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	194.00	193.00	188.00	188.00
1.16.2.2	1C-2x2.5sqmm (BYA) cable with 2.5sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	244.00	243.00	238.00	238.00
1.16.2.3	1C-2x4.0 sqmm (BYA) cable with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 16 mm having wall thickness of 1.5 mm	Meter	353.00	351.00	345.00	345.00
1.16.2.4	1C-2x6.0 sqmm (BYA) cable with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	472.00	471.00	465.00	465.00
1.16.2.5	1C-2x10 sqmm (BYA) cable with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 20 mm having wall thickness of 1.5 mm	Meter	683.00	681.00	674.00	674.00
1.16.2.6	1C-2x16 sqmm (BYA) cable with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.7 mm	Meter	1,010.00	1,008.00	1,002.00	1,002.00

1.17 CONCEALED WIRING (NYY) (THROUGH PVC CONDUIT)

*Some**✓**✓**✓**✓**✓**✓**✓*

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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Concealed conduit wiring with the following PVC insulated and sheathed stranded cable (NYY) / XLPE insulated and PVC sheathed stranded cable (2XY) & PVC insulated Green / Yellow bi-colour ECC wire (BYA) through PVC conduit of reputed manufacturer complete with fixing materials other accessories etc. as required including mending the damages good. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

1.17.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.

1.17.1.1	1C-4x2.5 sqmm (NYY) with 2.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	600.00	598.00	592.00	592.00
1.17.1.2	1C-4x4 sqmm (NYY) with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	779.00	777.00	771.00	771.00
1.17.1.3	1C-4x6 sqmm (NYY) with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,039.00	1,037.00	1,030.00	1,030.00
1.17.1.4	1C-4x10 sqmm (NYY) with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,465.00	1,463.00	1,456.00	1,456.00
1.17.1.5	1C-4x16 sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	2,087.00	2,085.00	2,077.00	2,077.00

1.17.2 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge

1.17.2.1	1C-4x2.5 sqmm (NYY / 2XY) with 2.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm.	Meter	528.00	526.00	519.00	519.00
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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.17.2.2	1C-4x4 sqmm (NYY / 2XY) with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm	Meter	667.00	665.00	658.00	658.00
1.17.2.3	1C-4x6 sqmm (NYY / 2XY) with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm.	Meter	913.00	911.00	904.00	904.00
1.17.2.4	1C-4x10 sqmm (NYY / 2XY) with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm.	Meter	1,255.00	1,253.00	1,246.00	1,246.00
1.17.2.5	1C-4x16 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm.	Meter	1,838.00	1,836.00	1,828.00	1,828.00

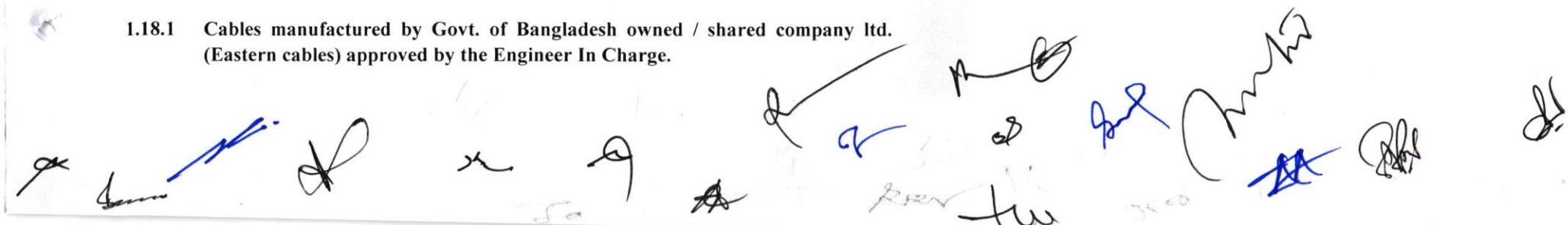
1.18 UNDERGROUND WIRING (NYY)(THROUGH PVC PIPE)

Providing & laying of the following PVC insulated & sheathed cable (NYY) / (XLPE) insulated & PVC sheathed cable (2XY) with PVC insulated Green / Yellow bi-colour ECC wire (BYA) connecting at both ends, through PVC pipe & accessories in the following manner. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

In kutcha ground by cutting 45.70 cm width x 91.40 cm depth trench with necessary brick or tile protection and mending the damages good by refilling trench with proper compaction;

In pucca floor through PVC pipe by cutting trench of necessary size and mending the damages good by brick soling, 75 mm (1:2:4) CC work with neat cement finishing etc.

1.18.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.



Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.1.1	IC-2x1.5 sqmm (NYY) with 1.5 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 20 mm & wall thickness 1.5 mm					
1.18.1.1.1	In kutchu ground	Meter	468.00	464.00	450.00	448.00
1.18.1.1.2	In pucca floor	Meter	721.00	715.00	697.00	693.00
1.18.1.2	IC-2x2.5 sqmm (NYY) with 2.5 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 20 mm & wall thickness 1.5 mm					
1.18.1.2.1	In kutchu ground	Meter	537.00	533.00	519.00	518.00
1.18.1.2.2	In pucca floor	Meter	791.00	785.00	767.00	763.00
1.18.1.3	IC-2x4 sqmm (NYY) with 4 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 25 mm & wall thickness 1.7 mm					
1.18.1.3.1	In kutchu ground	Meter	658.00	654.00	640.00	638.00
1.18.1.3.2	In pucca floor	Meter	911.00	906.00	887.00	883.00
1.18.1.4	IC-2x6 sqmm (NYY) with 6 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 25 mm & wall thickness 1.7 mm					
1.18.1.4.1	In kutchu ground	Meter	781.00	777.00	763.00	761.00
1.18.1.4.2	In pucca floor	Meter	1,034.00	1,028.00	1,010.00	1,006.00
1.18.1.5	IC-2x10 sqmm (NYY) with 10 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 30 mm&wall thickness 1.9 mm					
1.18.1.5.1	In kutchu ground	Meter	1,047.00	1,043.00	1,029.00	1,027.00
1.18.1.5.2	In pucca floor	Meter	1,300.00	1,294.00	1,276.00	1,272.00
1.18.1.6	IC-2x16 sqmm (NYY) with 16 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 40 mm & wall thickness 2.2 mm					
1.18.1.6.1	In kutchu ground	Meter	1,462.00	1,458.00	1,444.00	1,442.00
1.18.1.6.2	In pucca floor	Meter	1,715.00	1,710.00	1,691.00	1,687.00
1.18.1.7	IC-4x2.5 sqmm (NYY) with 2.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm & wall thickness of 1.9 mm					

*Subhead 1**1.18.1.1.1**1.18.1.1.2**1.18.1.2.1**1.18.1.2.2**1.18.1.3.1**1.18.1.3.2**1.18.1.4.1**1.18.1.4.2**1.18.1.5.1**1.18.1.5.2**1.18.1.6.1**1.18.1.6.2**1.18.1.7*

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.1.7.1	In kutchha ground	Meter	759.00	755.00	741.00	740.00
1.18.1.7.2	In pucca floor	Meter	1,013.00	1,007.00	989.00	985.00
1.18.1.8	1C-4x4 sqmm (NYY) with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm & wall thickness of 1.9 mm					
1.18.1.8.1	In kutchha ground	Meter	938.00	934.00	920.00	918.00
1.18.1.8.2	In pucca floor	Meter	1,191.00	1,186.00	1,167.00	1,163.00
1.18.1.9	1C-4x6 sqmm (NYY) with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm & wall thickness of 2.2 mm					
1.18.1.9.1	In kutchha ground	Meter	1,191.00	1,187.00	1,173.00	1,172.00
1.18.1.9.2	In pucca floor	Meter	1,445.00	1,439.00	1,421.00	1,417.00
1.18.1.10	1C-4x10 sqmm (NYY) with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm & wall thickness of 2.2 mm					
1.18.1.10.1	In kutchha ground	Meter	1,608.00	1,604.00	1,589.00	1,588.00
1.18.1.10.2	In pucca floor	Meter	1,861.00	1,855.00	1,837.00	1,833.00
1.18.1.11	1C-4x16 sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm & wall thickness of 2.2 mm					
1.18.1.11.1	In kutchha ground	Meter	2,229.00	2,225.00	2,211.00	2,209.00
1.18.1.11.2	In pucca floor	Meter	2,483.00	2,477.00	2,458.00	2,455.00
1.18.1.12	1C-4x25 sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm & wall thickness of 2.5 mm					
1.18.1.12.1	In kutchha ground	Meter	3,077.00	3,073.00	3,059.00	3,057.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.1.12.2	In pucca floor	Meter	3,330.00	3,325.00	3,306.00	3,302.00
1.18.1.13	1C-4x35 sqmm (NYY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm & wall thickness of 2.5 mm	Meter	3,906.00	3,902.00	3,887.00	3,886.00
1.18.1.13.1	In kutchha ground	Meter	4,159.00	4,153.00	4,135.00	4,131.00
1.18.1.13.2	In pucca floor	Meter	5,521.00	5,517.00	5,503.00	5,501.00
1.18.1.14	1C-4x50 sqmm (NYY) with 25 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm & wall thickness of 3 mm	Meter	5,774.00	5,769.00	5,750.00	5,746.00
1.18.1.14.1	In kutchha ground	Meter	7,334.00	7,330.00	7,316.00	7,314.00
1.18.1.14.2	In pucca floor	Meter	7,587.00	7,581.00	7,563.00	7,559.00
1.18.1.15	1C-4x70 sqmm (NYY) with 35 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm wall thickness of 3 mm	Meter	9,663.00	9,659.00	9,644.00	9,643.00
1.18.1.15.1	In kutchha ground	Meter	9,916.00	9,910.00	9,892.00	9,888.00
1.18.1.16	1C-4x95 sqmm (NYY) with 50 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm wall thickness of 3 mm	Meter	11,389.00	11,385.00	11,367.00	11,365.00
1.18.1.16.1	In kutchha ground	Meter	11,642.00	11,638.00	11,620.00	11,618.00
1.18.1.16.2	In pucca floor	Meter	11,895.00	11,891.00	11,873.00	11,871.00
1.18.1.17	1C-4x120 sqmm (NYY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm wall thickness of 3 mm	Meter	12,558.00	12,554.00	12,536.00	12,534.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.1.17.1	In kutcha ground	Meter	12,239.00	12,239.00	12,239.00	12,239.00
1.18.1.17.2	In pucca floor	Meter	12,609.00	12,603.00	12,585.00	12,581.00
1.18.1.18	1C-4x150 sqmm (NYY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm wall thickness of 3.4 mm					
1.18.1.18.1	In kutcha ground	Meter	14,917.00	14,917.00	14,917.00	14,917.00
1.18.1.18.2	In pucca floor	Meter	15,451.00	15,442.00	15,416.00	15,412.00
1.18.1.19	1C-4x185 sqmm (NYY) with 95 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm wall thickness of 3.4mm					
1.18.1.19.1	In kutcha ground	Meter	18,344.00	18,344.00	18,344.00	18,344.00
1.18.1.19.2	In pucca floor	Meter	18,877.00	18,868.00	18,843.00	18,838.00
1.18.1.20	1C-4x240 sqmm(NYY) with 120 sqmm (BYA) ECC wire through PVC pipe of minimum innerdia 125mm wall thickness 3.4 mm					
1.18.1.20.1	In kutcha ground	Meter	19,336.00	19,336.00	19,336.00	19,336.00
1.18.1.20.2	In pucca floor	Meter	19,869.00	19,861.00	19,835.00	19,831.00
1.18.1.21	1C-4x300 sqmm (NYY) with 150 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm wall thickness of 3.4 mm					
1.18.1.21.1	In kutcha ground	Meter	27,705.00	27,705.00	27,705.00	27,705.00
1.18.1.21.2	In pucca floor	Meter	28,238.00	28,230.00	28,204.00	28,200.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.1.22	1C-4x400 sqmm (NYY) with 185 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm wall thickness of 3.4 mm	Meter	38,909.00	38,909.00	38,909.00	38,909.00
1.18.1.22.1	In kutcha ground	Meter	38,909.00	38,909.00	38,909.00	38,909.00
1.18.1.22.2	In pucca floor	Meter	39,443.00	39,434.00	39,408.00	39,404.00
1.18.1.23	1C-4x500 sqmm (NYY) with 240 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 150 mm wall thickness of 4.5 mm	Meter	47,739.00	47,739.00	47,739.00	47,739.00
1.18.1.23.1	In kutcha ground	Meter	47,739.00	47,739.00	47,739.00	47,739.00
1.18.1.23.2	In pucca floor	Meter	48,531.00	48,518.00	48,481.00	48,475.00
1.18.1.24	1C-4x630 sqmm (NYY) with 300 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 200 mm wall thickness of 5.3 mm	Meter	60,653.00	60,653.00	60,653.00	60,653.00
1.18.1.24.1	In kutcha ground	Meter	60,653.00	60,653.00	60,653.00	60,653.00
1.18.1.24.2	In pucca floor	Meter	61,445.00	61,432.00	61,395.00	61,389.00
1.18.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge.					
1.18.2.1	IC-2x1.5 sqmm (NYY / 2XY) with 1.5 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 20 mm & wall thickness 1.5 mm	Meter	440.00	436.00	421.00	420.00
1.18.2.1.1	In kutcha ground	Meter	440.00	436.00	421.00	420.00
1.18.2.1.2	In pucca floor	Meter	692.00	686.00	668.00	664.00
1.18.2.2	IC-2x2.5 sqmm (NYY / 2XY) with 2.5 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 20 mm & wall thickness 1.5 mm					

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.2.2.1	In kutcha ground	Meter	496.00	492.00	478.00	476.00
1.18.2.2.2	In pucca floor	Meter	748.00	742.00	724.00	720.00
1.18.2.3	IC-2x4 sqmm (NYY / 2XY) with 4 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 25 mm & wall thickness 1.7 mm					
1.18.2.3.1	In kutcha ground	Meter	594.00	590.00	576.00	574.00
1.18.2.3.2	In pucca floor	Meter	846.00	840.00	822.00	818.00
1.18.2.4	IC-2x6 sqmm (NYY / 2XY) with 6 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 25 mm & wall thickness 1.7 mm					
1.18.2.4.1	In kutcha ground	Meter	707.00	703.00	688.00	687.00
1.18.2.4.2	In pucca floor	Meter	959.00	953.00	935.00	931.00
1.18.2.5	IC-2x10 sqmm (NYY / 2XY) with 10 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 30 mm & wall thickness 1.9 mm					
1.18.2.5.1	In kutcha ground	Meter	931.00	927.00	913.00	911.00
1.18.2.5.2	In pucca floor	Meter	1,184.00	1,178.00	1,160.00	1,156.00
1.18.2.6	IC-2x16 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through the PVC pipe of minimum inner dia 40 mm & wall thickness 2.2 mm					
1.18.2.6.1	In kutcha ground	Meter	1,283.00	1,279.00	1,265.00	1,264.00
1.18.2.6.2	In pucca floor	Meter	1,536.00	1,530.00	1,512.00	1,508.00
1.18.2.7	IC-4x2.5 sqmm (NYY / 2XY)with 2.5 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm					
1.18.2.7.1	In kutcha ground	Meter	681.00	677.00	663.00	661.00
1.18.2.7.2	In pucca floor	Meter	933.00	928.00	909.00	905.00
1.18.2.8	IC-4x4 sqmm (NYY / 2XY) with 4 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 30 mm having wall thickness of 1.9 mm					
1.18.2.8.1	In kutcha ground	Meter	820.00	816.00	802.00	801.00
1.18.2.8.2	In pucca floor	Meter	1,073.00	1,067.00	1,049.00	1,045.00

Subhead 1

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.2.9	1C-4x6 sqmm (NYY / 2XY) with 6 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 1.9 mm	Meter	1,060.00	1,056.00	1,042.00	1,040.00
1.18.2.9.1	In kutchu ground	Meter	1,312.00	1,307.00	1,288.00	1,284.00
1.18.2.9.2	In pucca floor					
1.18.2.10	1C-4x10 sqmm (NYY / 2XY) with 10 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,399.00	1,394.00	1,380.00	1,379.00
1.18.2.10.1	In kutchu ground	Meter	1,399.00	1,394.00	1,380.00	1,379.00
1.18.2.10.2	In pucca floor	Meter	1,651.00	1,645.00	1,627.00	1,623.00
1.18.2.11	1C-4x16 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 40 mm having wall thickness of 2.2 mm	Meter	1,906.00	1,902.00	1,888.00	1,886.00
1.18.2.11.1	In kutchu ground	Meter	1,906.00	1,902.00	1,888.00	1,886.00
1.18.2.11.2	In pucca floor	Meter	2,158.00	2,152.00	2,134.00	2,130.00
1.18.2.12	1C-4x25 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm	Meter	2,631.00	2,627.00	2,612.00	2,611.00
1.18.2.12.1	In kutchu ground	Meter	2,631.00	2,627.00	2,612.00	2,611.00
1.18.2.12.2	In pucca floor	Meter	2,883.00	2,877.00	2,859.00	2,855.00
1.18.2.13	1C-4x35 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 50 mm having wall thickness of 2.5 mm	Meter	3,279.00	3,275.00	3,261.00	3,259.00
1.18.2.13.1	In kutchu ground	Meter	3,279.00	3,275.00	3,261.00	3,259.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.2.13.2	In pucca floor	Meter	3,531.00	3,525.00	3,507.00	3,503.00
1.18.2.14	1C-4x50 sqmm (NYY / 2XY) with 25 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm having wall thickness of 2.9 mm					
1.18.2.14.1	In kutcha ground	Meter	4,553.00	4,549.00	4,535.00	4,533.00
1.18.2.14.2	In pucca floor	Meter	4,805.00	4,800.00	4,781.00	4,777.00
1.18.2.15	1C-4x70 sqmm (NYY / 2XY) with 35 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 65 mm having wall thickness of 2.9 mm					
1.18.2.15.1	In kutcha ground	Meter	6,043.00	6,039.00	6,025.00	6,023.00
1.18.2.15.2	In pucca floor	Meter	6,295.00	6,289.00	6,271.00	6,267.00
1.18.2.16	1C-4x95 sqmm (NYY / 2XY) with 50 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm					
1.18.2.16.1	In kutcha ground	Meter	7,962.00	7,958.00	7,943.00	7,942.00
1.18.2.16.2	In pucca floor	Meter	8,214.00	8,208.00	8,190.00	8,186.00
1.18.2.17	1C-4x120 sqmm (NYY / 2XY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 75 mm having wall thickness of 3 mm					
1.18.2.17.1	In kutcha ground	Meter	9,900.00	9,896.00	9,882.00	9,880.00
1.18.2.17.2	In pucca floor	Meter	10,152.00	10,147.00	10,128.00	10,124.00
1.18.2.18	1C-4x150 sqmm (NYY / 2XY) with 70 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm having wall thickness of 3.4 mm					

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.2.18.1	In kutcha ground	Meter	12,098.00	12,094.00	12,080.00	12,078.00
1.18.2.18.2	In pucca floor	Meter	12,514.00	12,505.00	12,480.00	12,475.00
1.18.2.19	1C-4x185 sqmm (NYY / 2XY) with 95 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 100 mm having wall thickness of 3.4 mm					
1.18.2.19.1	In kutcha ground	Meter	14,845.00	14,841.00	14,827.00	14,826.00
1.18.2.19.2	In pucca floor	Meter	15,261.00	15,252.00	15,227.00	15,222.00
1.18.2.20	1C-4x240 sqmm (NYY / 2XY) with 120 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm					
1.18.2.20.1	In kutcha ground	Meter	19,454.00	19,450.00	19,435.00	19,434.00
1.18.2.20.2	In pucca floor	Meter	19,869.00	19,861.00	19,835.00	19,831.00
1.18.2.21	1C-4x300 sqmm (NYY / 2XY) with 150 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm					
1.18.2.21.1	In kutcha ground	Meter	23,840.00	23,836.00	23,822.00	23,821.00
1.18.2.21.2	In pucca floor	Meter	24,256.00	24,247.00	24,222.00	24,217.00
1.18.2.22	1C-4x400 sqmm (NYY / 2XY) with 185 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 125 mm having wall thickness of 3.4 mm					
1.18.2.22.1	In kutcha ground	Meter	31,034.00	31,030.00	31,016.00	31,015.00
1.18.2.22.2	In pucca floor	Meter	31,450.00	31,441.00	31,416.00	31,411.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.18.2.23	1C-4x500 sqmm (NYY / 2XY) with 240 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 150 mm having wall thickness of 4.5 mm					
1.18.2.23.1	In kutcha ground	Meter	38,587.00	38,583.00	38,569.00	38,567.00
1.18.2.23.2	In pucca floor	Meter	39,262.00	39,248.00	39,211.00	39,206.00
1.18.2.24	1C-4x630 sqmm (NYY / 2XY) with 300 sqmm (BYA) ECC wire through PVC pipe of minimum inner dia 200 mm having wall thickness of 5.3mm					
1.18.2.24.1	In kutcha ground	Meter	48,762.00	48,758.00	48,744.00	48,743.00
1.18.2.24.2	In pucca floor	Meter	49,437.00	49,424.00	49,386.00	49,381.00

1.19 UNDERGROUND WIRING (NYY) (THROUGH GI PIPE)

Providing & laying of the following PVC insulated & sheathed cable (NYY) / XLPE insulated & PVC sheathed cable (2XY) with PVC insulated Green / Yellow bi-coloured ECC wire (BYA) connecting at both ends, through GI pipe (National Tubes Ltd. made or equivalent) with necessary accessories in pucca ground / road by cutting 45.70cm width x 91.40 cm depth trench mending the damages good by earth refilling providing 38 mm thick compacted premix bituminous carpeting over one layer of flat brick soling and 75 mm thick compacted water bound macadam of khoa of brick. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE standards along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction & approval of the Engineer In Charge.

- 1.19.1 Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern cables) approved by the Engineer In Charge.

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.19.1.1	1C-4x10 sqmm (NYY) with 10 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 40 mm.	Meter	3,001.00	2,996.00	2,966.00	2,953.00
1.19.1.2	1C-4x16 sqmm (NYY) with 16 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 40 mm.	Meter	3,623.00	3,618.00	3,587.00	3,575.00
1.19.1.3	1C-4x25 sqmm (NYY) with 16 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 50 mm.	Meter	4,614.00	4,609.00	4,578.00	4,566.00
1.19.1.4	1C-4x35 sqmm (NYY) with 16 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 50 mm.	Meter	5,443.00	5,438.00	5,407.00	5,395.00
1.19.1.5	1C-4x50 sqmm (NYY) with 25 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 65 mm.	Meter	7,566.00	7,561.00	7,530.00	7,518.00
1.19.1.6	1C-4x70 sqmm (NYY) with 35 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 65 mm.	Meter	9,379.00	9,374.00	9,343.00	9,331.00
1.19.1.7	1C-4x95 sqmm (NYY) with 50 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 75 mm.	Meter	11,759.00	11,754.00	11,724.00	11,711.00
1.19.1.8	1C-4x120 sqmm (NYY) with 70 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 75 mm.	Meter	14,454.00	14,449.00	14,418.00	14,406.00
1.19.1.9	1C-4x150 sqmm (NYY) with 70 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 100 mm.	Meter	17,733.00	17,728.00	17,697.00	17,685.00
1.19.1.10	1C-4x185 sqmm (NYY) with 95 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 100 mm	Meter	21,159.00	21,154.00	21,123.00	21,111.00
1.19.1.11	1C-4x240 sqmm (NYY) with 120 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 125 mm.	Meter	26,435.00	26,430.00	26,399.00	26,387.00
1.19.1.12	1C-4x300 sqmm (NYY) with 150 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 125 mm.	Meter	31,918.00	31,913.00	31,882.00	31,870.00
1.19.1.13	1C-4x400 sqmm (NYY) with 185 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 125 mm.	Meter	41,162.00	41,157.00	41,126.00	41,114.00
1.19.1.14	1C-4x500 sqmm (NYY) with 240 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 150 mm.	Meter	49,916.00	49,911.00	49,881.00	49,868.00
1.19.1.15	1C-4x630 sqmm (NYY) with 300 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 200 mm.	Meter	63,482.00	63,477.00	63,446.00	63,434.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.19.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge					
1.19.2.1	1C-4x10 sqmm (NYY / 2XY) with 10 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 40 mm.	Meter	2,791.00	2,786.00	2,755.00	2,743.00
1.19.2.2	1C-4x16 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 40 mm.	Meter	3,298.00	3,293.00	3,262.00	3,250.00
1.19.2.3	1C-4x25 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 50 mm.	Meter	4,167.00	4,162.00	4,131.00	4,119.00
1.19.2.4	1C-4x35 sqmm (NYY / 2XY) with 16 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 50 mm.	Meter	4,815.00	4,810.00	4,779.00	4,767.00
1.19.2.5	1C-4x50 sqmm (NYY / 2XY) with 25 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 65 mm.	Meter	6,597.00	6,592.00	6,561.00	6,549.00
1.19.2.6	1C-4x70 sqmm (NYY / 2XY) with 35 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 65 mm.	Meter	8,087.00	8,082.00	8,051.00	8,039.00
1.19.2.7	1C-4x95 sqmm (NYY / 2XY) with 50 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 75 mm.	Meter	10,057.00	10,052.00	10,021.00	10,009.00
1.19.2.8	1C-4x120 sqmm (NYY / 2XY) with 70 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 75 mm.	Meter	12,011.00	12,006.00	11,975.00	11,963.00
1.19.2.9	1C-4x150 sqmm (NYY / 2XY) with 70 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 100 mm.	Meter	14,822.00	14,817.00	14,786.00	14,774.00
1.19.2.10	1C-4x185 sqmm (NYY / 2XY) with 95 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 100 mm	Meter	17,570.00	17,565.00	17,534.00	17,522.00
1.19.2.11	1C-4x240 sqmm (NYY / 2XY) with 120 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 125 mm.	Meter	21,630.00	21,626.00	21,595.00	21,583.00
1.19.2.12	1C-4x300 sqmm (NYY / 2XY) with 150 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 125 mm.	Meter	26,008.00	26,003.00	25,972.00	25,960.00
1.19.2.13	1C-4x400 sqmm (NYY / 2XY) with 185 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 125 mm.	Meter	33,204.00	33,199.00	33,168.00	33,156.00
1.19.2.14	1C-4x500 sqmm (NYY / 2XY) with 240 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 150 mm.	Meter	40,682.00	40,677.00	40,646.00	40,634.00



Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.19.2.15	1C-4x630 sqmm (NYY / 2XY) with 300 sqmm (BYA) ECC wire through GI pipe of minimum inner dia 200mm.	Meter	51,493.00	51,488.00	51,458.00	51,445.00

1.20 HT CABLE (XLPE)

Providing & laying of following sizes HT (11KV) PVC insulated, sheathed, screened & armoured cable (NYSEYFgbY) / HT (11KV) armoured XLPE Cable : All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to IEC / BS / VDE along with relevant BDS standard as per detailed specification mentioned in Annexure-1. The work shall be carried out as per direction / approval / acceptance of the Engineer In Charge.

In kutcha ground by cutting 45.70 cm width x 91.40 cm depth trench with necessary brick or tile protection and mending the damages good by refilling trench with proper compaction.

In pucca floor through required size of PVC pipe cutting trench of necessary size and mending good the damages with one layer 1st class flat brick soling,75 mm thick (1:2:4) cc work with neat cement finishing etc.

In pucca ground / road through required size of PVC pipe by cutting 45.70cm width x 91.40 cm depth trench mending good the damages by earth refilling with proper compaction providing 50 mm thick compacted premix bituminous carpeting over one layer of 1st class flat brick soling and 75 mm thick compacted water bound macadam of khoa of brick.

1.20.1 **Cables manufactured by Govt. of Bangladesh owned / shared company ltd. (Eastern Cables) approved by the Engineer In Charge.**

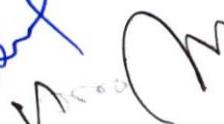
1.20.1.1 3Cx25 sqmm cable

1.20.1.1.1	In kutcha ground	Meter	4,932.00	4,928.00	4,912.00	4,911.00
1.20.1.1.2	In pucca floor through 75 mm PVC pipe having wall thickness of 3 mm.	Meter	5,483.00	5,478.00	5,459.00	5,455.00
1.20.1.1.3	In pucca ground / pucca road through 75 mm PVC pipe having wall thickness of 3 mm.	Meter	5,230.00	5,226.00	5,212.00	5,210.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.20.1.2	<u>3C x 35 sqmm cable</u>					
1.20.1.2.1	In kutchu ground	Meter	5,732.00	5,728.00	5,713.00	5,712.00
1.20.1.2.2	In pucca floor through 100mm PVC pipe having wall thickness of 3mm.	Meter	6,520.00	6,514.00	6,496.00	6,492.00
1.20.1.2.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	6,267.00	6,263.00	6,249.00	6,247.00
1.20.1.3	<u>3C x 50 sqmm cable</u>					
1.20.1.3.1	In kutchu ground	Meter	7,143.00	7,139.00	7,125.00	7,124.00
1.20.1.3.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	7,934.00	7,928.00	7,910.00	7,906.00
1.20.1.3.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	7,680.00	7,676.00	7,662.00	7,661.00
1.20.1.4	<u>3C x 70 sqmm cable</u>					
1.20.1.4.1	In kutchu ground	Meter	8,715.00	8,711.00	8,696.00	8,695.00
1.20.1.4.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	9,505.00	9,499.00	9,481.00	9,477.00
1.20.1.4.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	9,252.00	9,248.00	9,233.00	9,232.00
1.20.1.5	<u>3C x 95 sqmm cable</u>					
1.20.1.5.1	In kutchu ground	Meter	10,770.00	10,766.00	10,752.00	10,750.00
1.20.1.5.2	In pucca floor through 100mm PVC pipe having wall thickness of 3mm.	Meter	11,561.00	11,555.00	11,537.00	11,533.00
1.20.1.5.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	11,307.00	11,303.00	11,289.00	11,288.00
1.20.1.6	<u>3C x 120 sqmm cable</u>					
1.20.1.6.1	In kutchu ground	Meter	12,661.00	12,656.00	12,642.00	12,641.00
1.20.1.6.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	13,451.00	13,445.00	13,427.00	13,423.00
1.20.1.6.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	13,198.00	13,194.00	13,179.00	13,178.00
1.20.1.7	<u>3C x 150 sqmm cable</u>					

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.20.1.7.1	In kutchha ground	Meter	15,068.00	15,064.00	15,050.00	15,048.00
1.20.1.7.2	In pucca floor through 100mm PVC pipe having wall thickness of 3mm.	Meter	15,860.00	15,854.00	15,836.00	15,832.00
1.20.1.7.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	15,607.00	15,603.00	15,588.00	15,587.00
1.20.1.8	<u>3C x 185 sqmm cable</u>					
1.20.1.8.1	In kutchha ground	Meter	17,507.00	17,503.00	17,489.00	17,487.00
1.20.1.8.2	In pucca floor through 125mm PVC pipe having wall thickness of 3mm.	Meter	18,822.00	18,816.00	18,798.00	18,794.00
1.20.1.8.3	In pucca ground / pucca road through 125 mm PVC pipe having wall thickness of 3.4 mm.	Meter	18,568.00	18,564.00	18,550.00	18,549.00
1.20.1.8	<u>3C x 240sqmm cable</u>					
1.20.1.8.1	In kutchha ground	Meter	19,253.00	19,249.00	19,232.00	19,231.00
1.20.1.8.2	In pucca floor through 125mm PVC pipe having wall thickness of 3.4mm.	Meter	20,517.00	20,511.00	20,493.00	20,489.00
1.20.1.8.3	In pucca ground / pucca road through 125 mm PVC pipe having wall thickness of 3.4 mm.	Meter	20,263.00	20,259.00	20,245.00	20,244.00
1.20.2	Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) accepted / approved by the Engineer In Charge.					
1.20.2.1	<u>3Cx25 sqmm XLPE cable</u>					
1.20.2.1.1	In kutchha ground *	Meter	3,219.00	3,219.00	3,219.00	3,219.00
1.20.2.1.2	In pucca floor through 75 mm PVC pipe having wall thickness of 3 mm.	Meter	4,086.00	4,080.00	4,062.00	4,058.00
1.20.2.1.3	In pucca ground / pucca road through 75 mm PVC pipe having wall thickness of 3 mm.	Meter	3,833.00	3,829.00	3,814.00	3,813.00
1.20.2.2	<u>3C x 35 sqmm XLPE cable</u>					
1.20.2.2.1	In kutchha ground	Meter	4,160.00	4,156.00	4,141.00	4,140.00
1.20.2.2.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	4,948.00	4,942.00	4,924.00	4,920.00
1.20.2.2.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	4,695.00	4,691.00	4,676.00	4,675.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.20.2.3	<u>3C x 50 sqmm XLPE cable</u>					
1.20.2.3.1	In kutcha ground	Meter	5,042.00	5,038.00	5,023.00	5,022.00
1.20.2.3.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	5,832.00	5,826.00	5,808.00	5,804.00
1.20.2.3.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	5,579.00	5,574.00	5,560.00	5,559.00
1.20.2.4	<u>3C x 70 sqmm XLPE cable</u>					
1.20.2.4.1	In kutcha ground	Meter	6,352.00	6,348.00	6,334.00	6,332.00
1.20.2.4.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	7,142.00	7,136.00	7,118.00	7,114.00
1.20.2.4.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	6,889.00	6,885.00	6,870.00	6,869.00
1.20.2.5	<u>3C x 95 sqmm XLPE cable</u>					
1.20.2.5.1	In kutcha ground	Meter	7,670.00	7,670.00	7,670.00	7,670.00
1.20.2.5.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	8,726.00	8,721.00	8,702.00	8,698.00
1.20.2.5.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	8,473.00	8,469.00	8,455.00	8,453.00
1.20.2.6	<u>3C x 120 sqmm XLPE cable</u>					
1.20.2.6.1	In kutcha ground	Meter	9,375.00	9,370.00	9,356.00	9,355.00
1.20.2.6.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	10,166.00	10,160.00	10,142.00	10,138.00
1.20.2.6.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	9,913.00	9,909.00	9,894.00	9,893.00
1.20.2.7	<u>3C x 150 sqmm XLPE cable</u>					
1.20.2.7.1	In kutcha ground	Meter	11,082.00	11,078.00	11,063.00	11,062.00
1.20.2.7.2	In pucca floor through 100mm PVC pipe having wall thickness of 3.4mm.	Meter	11,874.00	11,869.00	11,850.00	11,846.00
1.20.2.7.3	In pucca ground / pucca road through 100 mm PVC pipe having wall thickness of 3.4 mm.	Meter	11,621.00	11,617.00	11,603.00	11,601.00
1.20.2.8	<u>3C x 185 sqmm XLPE cable</u>					
1.20.2.8.1	In kutcha ground	Meter	13,129.00	13,125.00	13,111.00	13,109.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.20.2.8.2	In pucca floor through 125mm PVC pipe having wall thickness of 3.4mm.	Meter	14,444.00	14,439.00	14,420.00	14,416.00
1.20.2.8.3	In pucca ground / pucca road through 125 mm PVC pipe having wall thickness of 3.4 mm.	Meter	14,191.00	14,187.00	14,173.00	14,171.00
1.20.2.9	<u>3C x 240 sqmm XLPE cable</u>					
1.20.2.9.1	In kutcha ground	Meter	16,464.00	16,460.00	16,444.00	16,442.00
1.20.2.9.2	In pucca floor through 125mm PVC pipe having wall thickness of 3.4mm.	Meter	17,527.00	17,521.00	17,507.00	17,505.00
1.20.2.9.3	In pucca ground / pucca road through 150 mm PVC pipe having wall thickness of 3.4 mm.	Meter	17,526.00	17,522.00	17,506.00	17,505.00

1.21 **TELECOMMUNICATION CABLE**

Supplying and drawing of following sizes PVC insulated & sheathed twisted pair telecommunication cables having dia of each core is 0.6 mm through prelaid pipes.

1.21.1 **Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc) approved / accepted by the Engineer In Charge.**

1.21.1.1	1C-2x0.282 sqmm (1 pair)	Meter	23.00	23.00	23.00	23.00
1.21.1.2	1C-4x0.282 sqmm (2 pair)	Meter	34.00	34.00	34.00	34.00
1.21.1.3	1C-6x0.282 sqmm (3 pair)	Meter	48.00	48.00	48.00	48.00
1.21.1.4	1C-8x0.282 sqmm (4 pair)	Meter	67.00	67.00	67.00	67.00
1.21.1.5	1C-10x0.282 sqmm (5 pair)	Meter	80.00	80.00	80.00	80.00
1.21.1.6	1C-12x0.282 sqmm (6 pair)	Meter	96.00	96.00	96.00	96.00
1.21.1.7	1C-16x0.282 sqmm (8 pair)	Meter	121.00	121.00	121.00	121.00
1.21.1.8	1C-20x0.282 sqmm (10 pair)	Meter	150.00	150.00	150.00	150.00
1.21.1.9	1C-40x0.282 sqmm (20 pair)	Meter	280.00	280.00	280.00	280.00
1.21.1.10	1C-60x0.282 sqmm (30 pair)	Meter	408.00	408.00	408.00	408.00
1.21.1.11	1C-80x0.282 sqmm (40 pair)	Meter	529.00	529.00	529.00	529.00
1.21.1.12	1C-100x0.282 sqmm (50 pair)	Meter	671.00	671.00	671.00	671.00

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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1.22 CO-AXIAL CABLE

Supplying & drawing of following sizes PVC insulated & sheathed 75 ohm impedance co-axial cables through prelaid pipes.

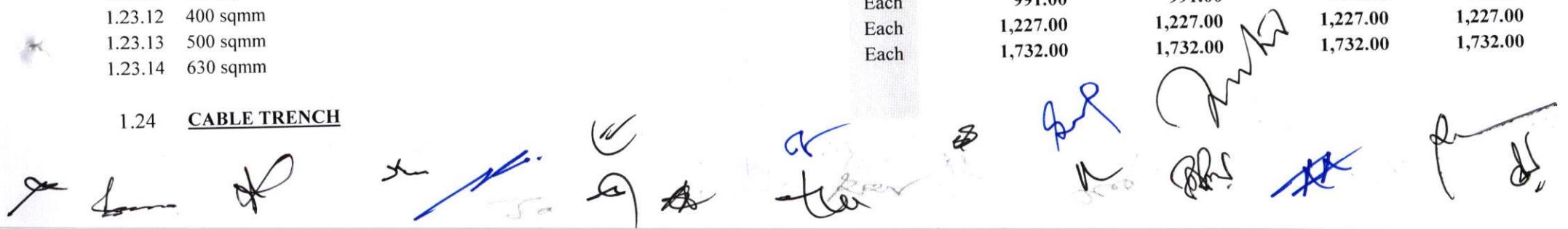
1.22.1 Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc)) approved/accepted by the Engineer In Charge.

1.22.1.1	4 / C	Meter	49.00	49.00	49.00	49.00
1.22.1.2	5 / C	Meter	59.00	59.00	59.00	59.00
1.22.1.3	6 / C	Meter	77.00	77.00	77.00	77.00
1.22.1.4	RG-11	Meter	112.00	112.00	112.00	112.00

1.23 CABLE / SOCKET / FERULES

Supply and fixing of copper made sockets / ferules for following size cables (need to be shown voltage rating.)

1.23.1	16 sqmm	Each	67.00	67.00	67.00	67.00
1.23.2	25 sqmm	Each	79.00	79.00	79.00	79.00
1.23.3	35 sqmm	Each	104.00	104.00	104.00	104.00
1.23.4	50 sqmm	Each	119.00	119.00	119.00	119.00
1.23.5	70 sqmm	Each	133.00	133.00	133.00	133.00
1.23.6	95 sqmm	Each	145.00	145.00	145.00	145.00
1.23.7	120 sqmm	Each	209.00	209.00	209.00	209.00
1.23.8	150 sqmm	Each	256.00	256.00	256.00	256.00
1.23.9	185 sqmm	Each	353.00	353.00	353.00	353.00
1.23.10	240 sqmm	Each	513.00	513.00	513.00	513.00
1.23.11	300 sqmm	Each	694.00	694.00	694.00	694.00
1.23.12	400 sqmm	Each	991.00	991.00	991.00	991.00
1.23.13	500 sqmm	Each	1,227.00	1,227.00	1,227.00	1,227.00
1.23.14	630 sqmm	Each	1,732.00	1,732.00	1,732.00	1,732.00

1.24 CABLE TRENCH

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
	Making following cable trench in pucca floor having 76.2 mm (3") thick CC (4:2:1) base on one layer of flat brick soling over 76.2 mm (3") thick sand bedding at the bottom, 127 mm (5") thick brick work (4:1) at the sides complete with 12.7 mm (1/2") plaster and neat cement finishing duly covered with 4.8 mm (3/16") thick MS sheet having necessary lifting lugs :					
1.24.1	W (width) – 457 mm x D (depth) – 864 mm	Meter	6,951.00	6,931.00	6,807.00	6,780.00
1.24.2	W (width) – 610 mm x D (depth) – 864 mm	Meter	7,992.00	7,969.00	7,832.00	7,802.00
1.24.3	W (width) – 762 mm) x D (depth) – 864 mm	Meter	9,043.00	9,018.00	8,867.00	8,833.00
1.24.4	W (width) – 913 mm x D (depth) – 864 mm	Meter	9,771.00	9,751.00	9,605.00	9,569.00
1.25	PVC PIPE					
	Providing & laying of following PVC pipe (best quality PVC pipe of reputed manufacturer) embedded in wall / column / ceiling / floor etc. with all accessories, 18 SWG GP sheet pull box with 3 mm thick ebonite sheet cover, fixing materials etc. as required including mending the damages good.					
1.25.1	Minimum inner dia 12 mm & minimum wall thickness 1.5 mm.	Meter	33.00	33.00	33.00	33.00
1.25.2	Minimum inner dia 20 mm & minimum wall thickness 1.5 mm.	Meter	50.00	50.00	50.00	50.00
1.25.3	Minimum inner dia 25 mm & minimum wall thickness 1.7 mm.	Meter	67.00	67.00	67.00	67.00
1.25.4	Minimum inner dia 30 mm & minimum wall thickness 1.9 mm.	Meter	92.00	92.00	92.00	92.00
1.25.5	Minimum inner dia 40 mm & minimum wall thickness 2.2 mm.	Meter	149.00	149.00	149.00	149.00
1.25.6	Minimum inner dia 50 mm & minimum wall thickness 2.5 mm.	Meter	232.00	232.00	232.00	232.00
1.25.7	Minimum inner dia 65 mm & minimum wall thickness 2.9 mm.	Meter	343.00	343.00	343.00	343.00
1.25.8	Minimum inner dia 75 mm & minimum wall thickness 3 mm.	Meter	393.00	393.00	393.00	393.00
1.25.9	Minimum inner dia 100 mm & minimum wall thickness 3.4mm	Meter	614.00	614.00	614.00	614.00
1.25.10	Minimum inner dia 125mm&minimum wall thickness 3 mm.	Meter	1,166.00	1,166.00	1,166.00	1,166.00
1.25.11	Minimum inner dia 150mm&minimum wall thickness 4.5 mm	Meter	1,244.00	1,244.00	1,244.00	1,244.00
1.25.12	Minimum inner dia 200mm&minimum wall thickness 5.3mm	Meter	1,829.00	1,829.00	1,829.00	1,829.00
1.26	LOOP CABLE					

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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Supply and fixing of loop cable of this following sizes : Cable manufacturer(s) must have valid type test certificate (within last seven years) from internationally accredited laboratory (like CPRI, KEMA etc.) accepted / approved by the Engineer In Charge.

1.26.1 From transformer to LT switchgear

(without ECC & conduit)

1.26.1.1	1C - 4 x 16 sqmm (NYY)	Meter	1,284.00	1,283.00	1,281.00	1,281.00
1.26.1.2	1C - 4 x 25 sqmm (NYY)	Meter	1,976.00	1,975.00	1,970.00	1,970.00
1.26.1.3	1C - 4 x 35 sqmm (NYY)	Meter	2,624.00	2,622.00	2,618.00	2,618.00
1.26.1.4	1C - 4 x 50 sqmm (NYY)	Meter	3,671.00	3,670.00	3,664.00	3,664.00
1.26.1.5	1C - 4 x 70 sqmm (NYY)	Meter	5,007.00	5,006.00	5,001.00	5,001.00
1.26.1.6	1C - 4 x 95 sqmm (NYY)	Meter	6,675.00	6,673.00	6,668.00	6,668.00
1.26.1.7	1C - 4 x 120 sqmm (NYY)	Meter	8,312.00	8,310.00	8,305.00	8,305.00
1.26.1.8	1C - 4 x 150 sqmm (NYY)	Meter	10,322.00	10,320.00	10,314.00	10,314.00
1.26.1.9	1C - 4 x 185 sqmm (NYY)	Meter	12,711.00	12,709.00	12,703.00	12,703.00
1.26.1.10	1C - 4 x 240 sqmm (NYY)	Meter	16,453.00	16,450.00	16,442.00	16,442.00
1.26.1.11	1C - 4 x 300 sqmm (NYY)	Meter	20,375.00	20,373.00	20,364.00	20,364.00
1.26.1.12	1C - 4 x 400 sqmm (NYY)	Meter	27,024.00	27,022.00	27,013.00	27,013.00
1.26.1.13	1C - 4 x 500 sqmm (NYY)	Meter	33,632.00	33,630.00	33,621.00	33,621.00
1.26.1.14	1C - 4 x 630 sqmm (NYY)	Meter	42,302.00	42,299.00	42,290.00	42,290.00

1.26.2 From LT switchgear to PFI plant

(without neutral, ECC and conduit)

1.26.2.1	1C - 3 x 16 sqmm (NYY)	Meter	964.00	963.00	961.00	961.00
1.26.2.2	1C - 3 x 25 sqmm (NYY)	Meter	1,509.00	1,508.00	1,503.00	1,503.00
1.26.2.3	1C - 3 x 35 sqmm (NYY)	Meter	1,995.00	1,993.00	1,989.00	1,989.00
1.26.2.4	1C - 3 x 50 sqmm (NYY)	Meter	2,784.00	2,783.00	2,778.00	2,778.00
1.26.2.5	1C - 3 x 70 sqmm (NYY)	Meter	3,786.00	3,785.00	3,780.00	3,780.00
1.26.2.6	1C - 3 x 95 sqmm (NYY)	Meter	5,043.00	5,042.00	5,036.00	5,036.00
1.26.2.7	1C - 3 x 120 sqmm (NYY)	Meter	6,274.00	6,272.00	6,266.00	6,266.00



Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna,Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
1.26.2.8	1C - 3 x 150 sqmm (NYY)	Meter	7,783.00	7,781.00	7,775.00	7,775.00
1.26.2.9	1C - 3 x 185 sqmm (NYY)	Meter	9,581.00	9,579.00	9,573.00	9,573.00
1.26.2.10	1C - 3 x 240 sqmm (NYY)	Meter	12,399.00	12,396.00	12,388.00	12,388.00
1.26.2.11	1C - 3 x 300 sqmm (NYY)	Meter	15,342.00	15,340.00	15,331.00	15,331.00
1.26.2.12	1C - 3 x 400 sqmm (NYY)	Meter	20,332.00	20,330.00	20,321.00	20,321.00
1.26.2.13	1C - 3 x 500 sqmm (NYY)	Meter	25,288.00	25,286.00	25,277.00	25,277.00
1.26.2.14	1C - 3 x 630 sqmm (NYY)	Meter	31,793.00	31,791.00	31,782.00	31,782.00

1.27 ROAD CARPETING

Providing following finished bituminous carpeting by preparing bitumen mixture of 19mm (3 / 4") under graded size shingles, 2.5 F.M Sylhet sand and 1.5 F.M. local sand in 0.56:4:2:1 proportion in asphalt plant at 176°C-190°C (350°F-375°F) temperature and the same to be spread by paver, finisher machine over a bitumen tack coat of 1 Kg per sq. meter after sweeping and cleaning the road surface and making proper compaction and slope by using 10-12 ton static road roller (3 wheel), 8-10 ton static road roller (2 wheel) and vibrating road roller (9 wheel) machines including nominal seal coat and supplying all required materials accepted / approved by the Engineer In Charge.

1.27.1	25 mm (1") average thickness	Sqm	601.00	601.00	601.00	601.00
1.27.2	38 mm (1.5") average thickness	Sqm	901.00	901.00	901.00	901.00
1.27.3	50 mm (2") average thickness	Sqm	1,201.00	1,201.00	1,201.00	1,201.00

1.28 INSULATING TAPE

Supply and fixing of PVC insulating tape.
(UK / JAPAN or equivalent brand accepted / approved by the Engineer In Charge)

1.28.1	¾ " width PVC insulation tape (Nitto) (10 yards per reel)	Each	25.00	25.00	25.00	25.00
1.28.2	¾ " width PIB tape (25m per reel)	Each	282.00	282.00	282.00	282.00
1.28.3	1" width PIB tape (25 m per reel)	Each	344.00	344.00	344.00	344.00

ANNEXURE – 1.1

It will be the part and parcel of section-7 & 8 (General and particular specification) of STD.

SPECIFICATIONS OF CABLES

GENERAL SPECIFICATION

The specification for the parts of this contract mentioned below cover design, manufacture, assembly and testing at the manufacturer's factory as well as the supply, delivery, installation, testing and commissioning of the cable at site.

CLIMATIC CONDITIONS

The climate is tropical and has marked Monsoon character with seasonal changes from humid, warm, rainy season, summers to cool and dry winters. Maximum temperature occurs during the period from April to May reaching approximately 43°C (110°F) with a relative air humidity of 60% to 70%.

The annual mean temperature is approximately 29°C (84°F). During the rainy monsoon month from June to September, the average relative air humidity is 80% and reaches extreme values up to saturation point during longer periods. The annual rainfall, most of which occurs from June to September is 2000mm to 2500mm.

OPERATING CONDITIONS

The cable will be connected to the 11KV or 415 volts 3-phase or 220 volt single phase, 50 Hz Bus of Power Development Board / REB / DPDC / DESCO BANGLADESH and other power distribution companies.

STANDARDS

All equipment and materials must be in conformity with the most recent relevant BANGLADESH laws, standard rules and regulation. Particular attention is to be paid to the Electrical Act 1910 and Electricity Rules 1937 (as amended in 1946). All equipment and materials to be supplied which required any form of approval by the BANGLADESH Government or a Local Authority like PDB / DPDC / DESCO or REB must satisfactorily pass all inspection and tests procedures imposed by them.

Otherwise, all the equipment and materials must be in conformity with the most recent international rules, regulation, standards and recommendation: IEC.

STANDARD DATA

The following standard values for high and low voltage are standard in BANGLADESH. Distribution bus High Voltage : 11KV Maximum system High Voltage : 12KV Distribution bus Low Voltage : 415/240 V

FREQUENCY

The standard power frequency in BANGLADESH will be: 50Hz.

DESIGN & CONSTRUCTION REQUIREMENTS

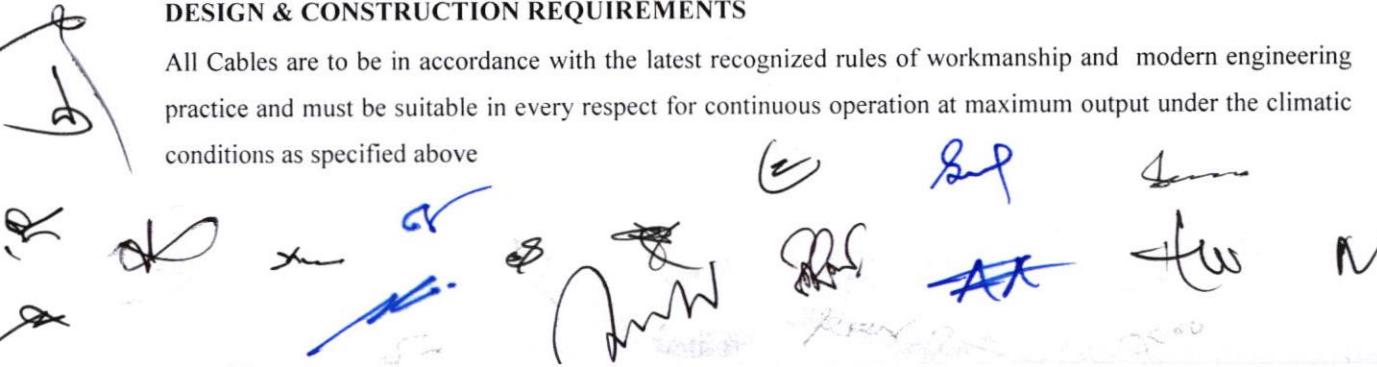
All Cables are to be in accordance with the latest recognized rules of workmanship and modern engineering practice and must be suitable in every respect for continuous operation at maximum output under the climatic conditions as specified above

(C) *[Signature]* *[Signature]*

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MATERIAL REQUIREMENTS

Conducting materials for cables must be of 99.99% pure annealed stranded copper and insulation of thermoplastic materials based on PVC or XLPE for HT and LT Cables shall be complying with IEC / BS / VDE standard along with relevant BDS standard.

OPERATING TESTS

Current load measurement shall be made on equipment and on all power and lighting feeders. The current reading shall be taken in each phase wire and in each neutral wire while the circuit or equipment is operating under actual load conditions. Clip-on ammeters may be used to take current readings. All light fittings shall be tested electrically and mechanically to check whether they comply with the standard specifications. Fluorescent light fittings shall be tested so that when functioning no flickering or choke singing is felt.

LIGHTING CIRCUITS

- * Wooden boxes and panels are avoided in factories for mounting the lighting boards, switch controls, etc.;
- * Neutral links are provided in double pole switch fuses which are used for lighting control, and no fuse is provided in the neutral;
- * The plug points in the lighting circuit are all 3-pin type, the third pin being suitably earthed;
- * Tamper proof interlocked switch socket and plug are used for locations easily accessible;
- * Lighting wiring in factory area is enclosed in conduit and the conduit is properly earthed, or alternatively, armored cable wiring is used;
- * A separate earth wire is run in the lighting installation to provide earthing for plug points, fixtures and equipment;
- * Proper connectors and junction boxes are used wherever joints are in conductors or cross over of conductors takes place;
- * Cartridge fuse units are fitted with cartridge fuses only;
- * Clear and permanent identification marks are painted in all distribution boards, switchboards, sub-main boards and switches as necessary;
- * The polarity has been checked and all fuses and single pole switches are connected on the phase conductor only and wiring is correctly connected to socket outlets;
- * Spare knockouts provided in distribution boards and switch fuses are blocked;
- * The ends of conduits enclosing the wiring leads are provided with ebonite or other suitable bushes;
- * The fittings and fixtures used for outdoor use are all of weatherproof construction, and similarly, fixtures, fittings and switchgears used in the hazardous area are of flame proof application.
- * Proper terminal connectors are used for termination of wires (conductors and earth leads) and all strands are inserted in the terminals;
- * Flat ended screws are used for fixing conductor to the accessories;
- * Flat washers backed up by spring washers are used for making end connections

MARKING AND CODE

The Cables shall be marked and coded in accordance with BS, IEC, VDE or equivalent standards.

INSULATION CO - ORDINATION

The insulation of thermoplastic materials based on PVC or XLPE for HT and LT Cables shall be complying with IEC / BS / VDE standard along with relevant BDS standard..

The insulation test voltage for Cables is as follows:

Rated voltage of the cables, KV	Single Phase test voltage, KV	Three phase test voltage, KV	Direct test voltage, KV
0.6	4	4	12
3.5	11	11	33
5.8	17	17	51

TECHNICAL REQUIREMENTS

The Cable specified in the following items shall withstand the impulse levels and test voltages specified by the recommendations of IEC, as stipulated before. They must be capable of carrying the short time current for three seconds and must withstand the short circuit (Peak value) current.

The cable must be designed accordingly in order to withstand the mechanical short circuit stresses.

They must contain all technical particulars which are mentioned in the Schedule of Technical Data.

The Owner reserves the right to have routine tests carried out on each type of equipment at the manufacturer's factory in the presence of his representative.

The single bars shall be marked by the colors as per IEC, VDE or BS standard.

HT CABLE

HT XLPE Cables Construction

CONDUCTOR

The Conductor is Plain annealed stranded and compacted round Copper in accordance with IEC-60228. Compacting of conductor improves its current carrying capacity, reduces losses and reduces overall cable diameter.

CONDUCTOR SCREEN

An extruded tight fitting layer of Semi-conducting is provided over the copper conductor as the provisions of IEC-60502-2.

INSULATION

The insulation of Cross-linked polyethylene (XLPE) to be applied by extrusion as per IEC-60502-2.

INSULATION SCREEN

An extruded tight fitting layer of Semi-conducting is provided over the XLPE insulation as the provisions of IEC-60502-2.

METALLIC SCREEN

A metallic screen of copper is provided over insulation screen as per the provisions of IEC-60502-2.

INNER COVERING

Inner covering of extruded or taped PVC is provided wherever applicable as per IEC-60502-2.

ARMOUR

Armouring by Round wires or Flat wires or Double tapes. The material of armour for Single core is Aluminum whereas, for multi-core cables it is Galvanized Sheet. Counter helix of Galvanized sheet tape is provided on request for round steel wire & Flat wire armored cables. The armour is applied over the inner covering as per IEC-60502-2.

OVER SHEATH

Over sheath is of extruded PVC as per IEC-60502-2. Special properties for sheath can be provided on specific request, such as FRLS, anti-termite & anti-rodent, resistance to ultraviolet radiation etc.

3 Core Round / Flat Wire HT XLPE Cables

Type: 2xSEYRGY/2xSEYFGY

Applicable Specification: IEC-60502-2.

Voltage grade 6/10(12) KV.

Construction

Stranded copper conductor, extruded semi conducting conductor screen, XLPE insulation, extruded semi conducting insulation screen, metallic screen of copper, cores laid up with PVC fillers. Extruded PVC Inner covering, Galvanized steel Round/Flat wire armour with counter helix binder tape, PVC over sheathed.

Table 1: Dimension & Mechanical Data

Nominal conductor cross section	Nominal thickness of insulation	Steel armour wire Dia.	Nominal Over Sheath thickness	Approx. Cable Diameter	Approx. weight of cable
mm ²	mm	mm	mm	mm	kg / km
3 x 50	3.4	2.5	2.5	52.5	5820
3 x 70	3.4	2.5	2.5	56.5	6900
3 x 95	3.4	2.5	2.8	61	8150
3 x 120	3.4	2.5	2.9	64.3	9100
3 x 150	3.4	2.5	3	68	10350
3 x 185	3.4	2.5	3.2	72.1	11950
3 x 240	3.4	3.15	3.3	78	15050
3 x 300	3.4	3.15	3.5	86	17700

Table 2: Electrical Data

Nominal Conductor cross-section	Max. Conductor DC resistance @ 20°C	Current Rating @ 20°C in ground	Current Rating @ 20°C in air	Capacitance	Inductance
mm ²	Ohm / Km	Amps	Amps	Micro F / Km	mH / Km
3 x 50	0.387	181	205	0.321	0.343
3 x 70	0.268	220	253	0.371	0.325
3 x 95	0.193	263	307	0.417	0.309
3 x 120	0.153	298	352	0.459	0.297
3 x 150	0.124	332	397	0.494	0.289
3 x 185	0.0991	374	453	0.543	0.280
3 x 240	0.0754	431	529	0.583	0.273
3 x 300	0.0601	482	599	0.602	0.267

L.T. CABLE

Single / Multi-core low voltage cables shall be PVC / XLPE insulated, PVC sheathed armoured / non-armoured direct burial type, termite proof, made and tested according to relevant IEC / VDE / BS / BDS for this type of installation rated voltage being 600 / 1000V. LT cable shall be used for domestic wiring, control and power wiring.

BYA Cable

Description: Plain annealed Stranded Copper conductor of 99.99% purity, PVC insulated single core cable.

Application: Suitable for use in surface mounted or cosseted PVC conduits or trunking. Also suitable for field protected installation in and appliances up to 1000 V A.C or up to 750 V to earth D.C.

Reference Standards: IEC-60502-1, VDE-0250, BDS-900 and BS: 6004.

BYM Cable

Description: Plain annealed Stranded Copper conductor of 99.99% purity, PVC insulated, PVC outer sheathed single core cable.

Application : Suitable for use in fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unclosed and also for use in non-metallic conduit (PVC) to be used in appliances up to 1000 V A.C or up to 750 V to earth D.C.

Reference Standards : IEC-60502-1, VDE-0250, BDS-900 and BS: 6004

BYFYE Cable

Description: Plain annealed Stranded Copper conductor of 99.99% purity, PVC insulated, two core flat cable with earth continuity conductor and PVC sheathed.

Application: Suitable for use in fixed installation in dry or damp premises and for installation in walls, on boards and in channels or embedded in plaster. Not to be used in three phase 400 V circuits.

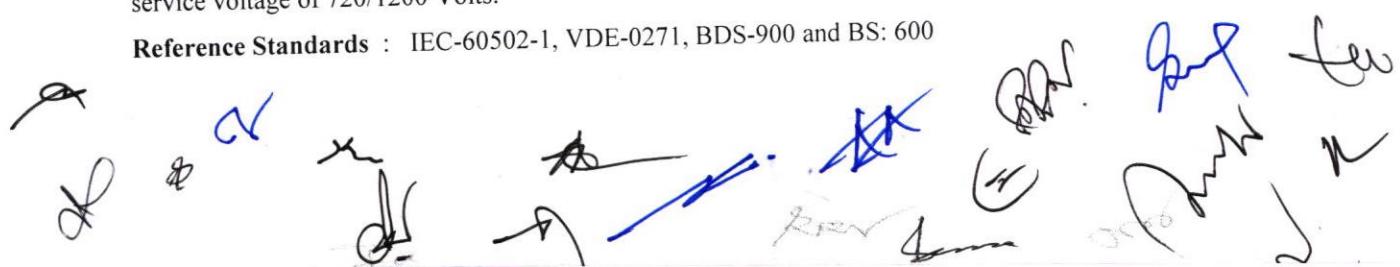
Reference Standards: IEC-60502-1, VDE-0250, BDS-900 and BS: 6004.

NNY Cables

Description: Plain annealed Stranded Copper conductor of 99.99% purity, PVC insulated, PVC outer sheathed.

Application : Suitable for use in indoors, outdoors, underground and in water for continuous permissible service voltage of 720/1200 Volts.

Reference Standards : IEC-60502-1, VDE-0271, BDS-900 and BS: 600



INSTALLATION

Cable in conduits :

Generally, single core cables (no sheathed) are to be installed PVC conduits. The conduit sizes shall be as specified in the drawing. It must be ensured that cables are not scratched / damaged during pulling. For long lengths, Pull boxes must be used even if not indicated in the Drawings. Cable shall not be drawn round more than two 90° bends (or their equivalent) between drawing-in-boxes and any single bend must be less than 90°.

Table 3: Cable bending radii

The internal radius of every bend in a cable shall be not less than the appropriate value stated below:

Insulation	Finish	Overall diameter	Factor to be applied to overall diameter of cable to determine minimum internal radius of bend.
Rubber or PVC Non (circular copper or circular standard Aluminum conductor)	Non armoured	Not exceeding 10mm	3
		Exceeding 10mm but not exceeding 25mm	4
		Exceeding 25mm	6
	Armoured	Any	6
PVC (solid) aluminum or shaped copper non- armoured conductor.	Armoured or any		8

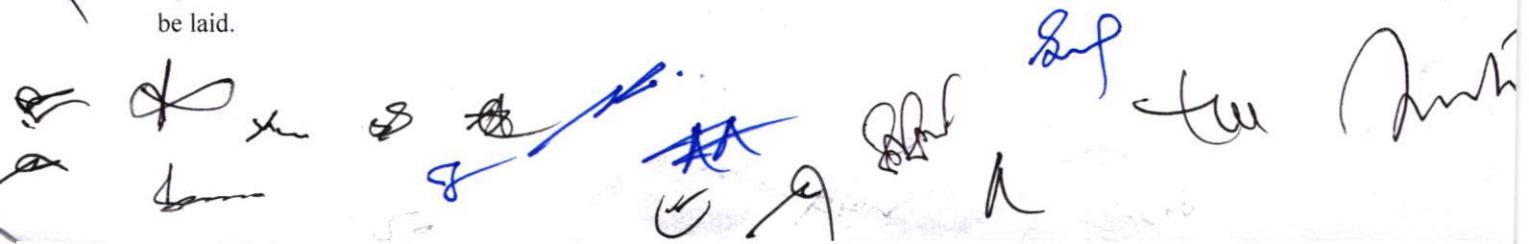
Construction Joint Crossing :

At construction joint crossing, a brass expansion joint fitting as per drawing is to be installed and the cables are to be run through such fitting.

Cable Trench :

The size of the trench shall be of minimum 2'-9" depth and 1'-6" width for each cable to be laid. Where more than one cable is to be laid in the trench, the width of the trenches are to be increased by 6" for each extra cable for size below 70mm² (3&1/2 core or 4 core) and 12" for bigger size cables.

A cushion of sand of F.M. 1.5, 5" thick is to be placed over the bed of the trench over which the cables are to be laid.



After laying the cable first class brick on edge of flat are to be placed as separators in between the cables. After installation of the brick separators, sand filling is to be done up to 6" from the top of the bigger cable. After sand filling, two layers of first class brick flats are to be placed along the length and breadth of the trench as a protection against injury and indication that a power cable is laid. The rest of the trench shall be filled with earth, watered and rammed at 6" layers. After cables are laid the original ground conditions shall be restored. But if brick pavement, drain, concrete road, or bituminous carpeting road are out across or damaged, they shall be remedied and restored to the original specification.

The cable route shall be as direct as possible and shall receive the consultant's approval before excavation. All cable bends shall have a radius of not less than 2 times the diameter of the cable drum, or 20 times the diameter of the cable whichever is greater.

G.I. pipe shall be provided for all road and drain crossing. These pipes shall be laid direct in the ground without any sand bed, sand layer, brick or cable covers.

Cables shall always be laid out or laid into the ground through G.I. pipe of suitable size as decided by the Engineer-in-charge / Consultant/Consultant the length of the pipes over the ground shall not be less than 4'-0". No extra cost shall be paid for such pipes. The exposed end of the pipes shall be sealed using PVC or wooden plugs.

The Contractor shall exercise great care in handling the cable and avoid forming 'KINKS'. The cable drums shall preferably be conveyed on wheeled cable drum carried and unrolled and laid directly from the drum carrier. Carriage by trailer or truck can be allowed only if proper care is taken during unloading the drum, and unrolling is done after placing the drum or drum jacks and spindle. The cables shall be unrolled in the directions indicated on the drum by the manufacturer.

G.I. cable marker is to be supplied and installed at every turning point of the trench.

After the cable is laid, it shall be tested by the indicated placed by the Contractor at his own cost. No extra charge shall be allowed for this.

Any damage done to any other services by the Contractor for cable laying operations, shall be made good by the Contractor.

All chasing and passages necessary for laying of cable indoor shall be done by the Contractor and the same shall be made good to the satisfaction of the Consultant by the Contractor without any extra charge to the Owner.

Whenever trenches are left open at overnight , and where road is to be cut, the Contractor shall exhibit suitable danger signal such as banners, red flags and red lamps at his own cost. Temporary arrangement by placing wooden sleepers/sheet steel etc. across the road cutting for vehicular traffic are also be made by the Contractor at no extra cost. The Contractor shall be wholly responsible for any accident which may occur due to the negligence of the Contractor.

All road excavations shall be filled up in layers with power earth and suitably watered and rammed in such a manner that after completion of the work there is no land subsidence. The road top shall be reconstructed to match the existing road pavement.

No trench shall be dug until all cables meant for laying have been procured and brought at site store. Cost of any decent ring or shuttering and showing of trench required to be done shall be borne by the Contractor.

Single Core Cables :

Single core cables on ground/trench/non-metallic floor shall be laid in trefoil formation, wherever so required by the Engineer-in-charge / Consultant. Where more than one single core cable shall be used in parallel for the same system, these shall be separate, if necessary, from the relevant distribution board(s).

In this matter the instruction of the consultant shall be binding and final, no matter whether these are shown or not in the drawing or schedule. Rate for these shall be included into the cable laying rate. In cases where this type of system (i.e. more than one single core cable is parallel for the same system) are to be laid in the trefoil formation, they shall be found after regular suitable internal as per direction of the Consultant or Engineer-in-charge / Consultant.

Insulation Test :

Insulation test of the whole installation shall be carried out using Megger, in presence of authorized representative of the Consultant, and result submitted to the Consultant for approval. The Contractor shall conduct the following tests with the help of the concerned department/authority and the costs of performing the tests should be included in the quoted rates:

CIRCUIT WIRING:

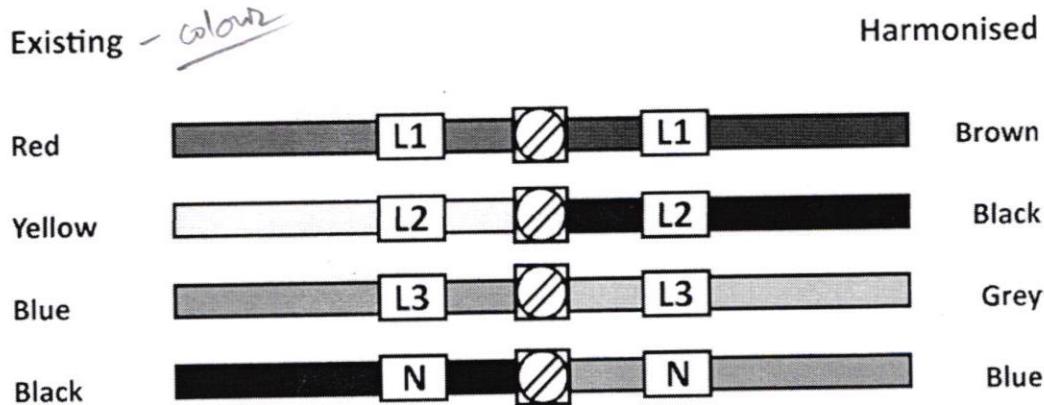
- Circuits with more than one outlet shall not be loaded in excess of 50% of their current carrying capacity.
- Each branch circuit running between a DB and a SDB, between a SDB and a BDB must have spare capacity to permit at least 20% increase in load before reaching the level of maximum continuous load current permitted for that circuit.
- At least one spare circuit must be allowed in the distribution board for each five circuits in use. Additional space for a circuit breaker along with the provision for connecting a pair of outgoing cables shall be kept.
- Size of cables to be used in a branch circuit shall be at least one size larger than that computed from the loading if the distance from the over-current protective device to the first outlet is over 15 m.
- The minimum size of wiring cable used for a 15 A socket outlet branch circuit shall be

$4 \text{ mm}^2 (7/0.036)$. When the distance from the over-current protective device to the first socket outlet on a receptacle circuit is over 30 m the minimum size of wire used for a 15 A branch circuit shall be $6 \text{ mm}^2 (7/0.044)$.

- The length of a lighting circuit shall be limited to a maximum of 30 m, unless the load on the circuit is so small that voltage drop between the over-current protective device and any outlet is below 1 percent.
- Each circuit must have its own neutral cable. Use of common neutral cable for more than one circuit is not permitted.
- Following the appropriate new colour codes of cables. During wiring, correct colour codes of the insulation of the cables must be used.

Table 3:

Item	Pre 2004 IEE	Current IEC
Protective Earth (PE)	Green/Yellow Bi colour	Green/Yellow Bi colour
Neutral	Black	Blue
Single Phase :Line (L)	Red	Brown
Three Phase: L1	Red	Brown
Three Phase: L2	Yellow	Black
Three Phase: L3	Blue	Grey



Electrical Layout and Installation Drawings

- An electrical layout drawing shall be prepared after proper locations of all outlets for lamps, fans, fixed and transportable appliances, motors etc. have been selected. This is the beginning of the electrical distribution design work. This job must be done with due importance prior to starting the construction and installation work. Strong emphasis is given on this work in this document.
- At the beginning, the Light points, Fan points, Socket points, Switch Boards, BDBs, SDBs, FDBs. DBs and MDBs shall be located on each plan based on convention, suitability, application and safety view point.
- Light and fan circuits must not be mixed with the socket circuits. In designing the wiring layout, power (socket) and heating (socket) sub-circuits shall be kept separate and distinct from light and fan sub-circuits.
- All wiring shall be done on the distribution system with main and branch distribution boards placed at convenient positions considering both physical aspects and electrical load centres. All types of wiring whether concealed or surface, shall be as near the ceiling as possible. In all types of wiring due consideration shall be given to neatness and good appearance.
- Balancing of circuits in three phase installations shall be arranged in the drawing and also must be done during physical connection.

Wiring inside suspended ceilings (false ceilings)

- Wiring inside suspended ceilings (false ceilings) shall be surface wiring through conduits or through PVC channels mentioned under the heading of surface wiring methods. Cables shall not be placed loosely and haphazardly on the suspended ceilings. Placing naked cables inside the suspended ceiling is not permitted. Cable joints with PVC tape wrapping is not allowed for connection of a fitting from the ceiling rose or from a junction box inside the gap space.

Mounting height of light and fan switch boards

- Light and fan switch boards shall be placed 1220 mm above floor level in the residential buildings (i.e, the clearance between the floor and the bottom of the switch board shall be 1220 mm).
- This above-mentioned height shall be 1300 mm above floor level in the office buildings, commercial buildings and industrial buildings. However, the minimum height shall not be below 1220 mm.
- Fan hooks may be concealed (hidden) or may be exposed type. Fan hooks shall be made using MS rods of 12 mm diameter. The diameter of this rod shall not be below 10 mm under any circumstances.

Methods of Circuit Wiring

- Wiring between a switch board and a BDB/SDB/DB will be called Circuit Wiring. Circuit wiring shall be done with a live cable a neutral cable and an ECC cable for a single-phase circuit. Sometimes this circuit is also referred to as sub-circuit. Size of circuit wiring must not less than 2.5 mm².
- An ECC must be provided with each circuit. The ECC at the switch board end shall be terminated in the earth terminal of the metal part of the switch board using a brass screw/bolt and a nut. The BDB/SDB/DB end of the ECC shall be terminated in the earthing bus-bar of the BDB/SDB/DB.
- The ECC in this case shall be PVC insulated copper cable of appropriate size but with yellow + green bi-colour insulation.
- For each circuit, the live cable must be drawn using brown colour insulated PVC cable and the neutral cable shall be drawn using blue colour insulated PVC cable.
- Common neutral shall not be used under any circumstances.
- The minimum sizes of cable for various uses shall be as follows:
 - (a) For a 5A circuit protected by a 5 A circuit breaker or fuse shall not be below 1.5mm²
 - (b) For a 10A circuit protected by a 10A circuit breaker or fuse shall not be below 2.5 mm².
 - (c) For a 15 A circuit protected by a 15 A circuit breaker or fuse shall not be below 4 mm².
 - (d) For a 20 A circuit protected by a 20 A circuit breaker or fuse shall not be below 6 mm².

The above-mentioned sizes must be increased for long cables as mentioned elsewhere in this document.
- All stranded conductors must be provided with **cable sockets/cable lugs** of appropriate size fitted using appropriate hand press tool or hand crimp tool or hydraulic press tool depending on the size of the cable. This is necessary for termination of the cable ends on bus-bars.
- PVC conduits and conduit fittings shall be heavy wall water grade type.

Types of Electrical Wiring for Exterior Lighting and other exterior purposes

- For garden lighting PVC insulated PVC sheathed underground cables (NYY/2XY) shall be used.
- For street lighting PVC insulated PVC sheathed underground cables (NYY/2XY) shall be used.
- For boundary lighting PVC insulated PVC sheathed underground cables (NYY/2XY) shall be used.

Vertical Service Shafts for Electrical Risers:

- For Buildings over six stories or 20m high there shall, in general be a minimum of one vertical electrical service shaft of (200mm x 400mm) size for every 1500 m² floor area.
- For more than 9 storied building Bus-bar preferably sandwiched copper bus-bar trunking should be used for safety reasons.

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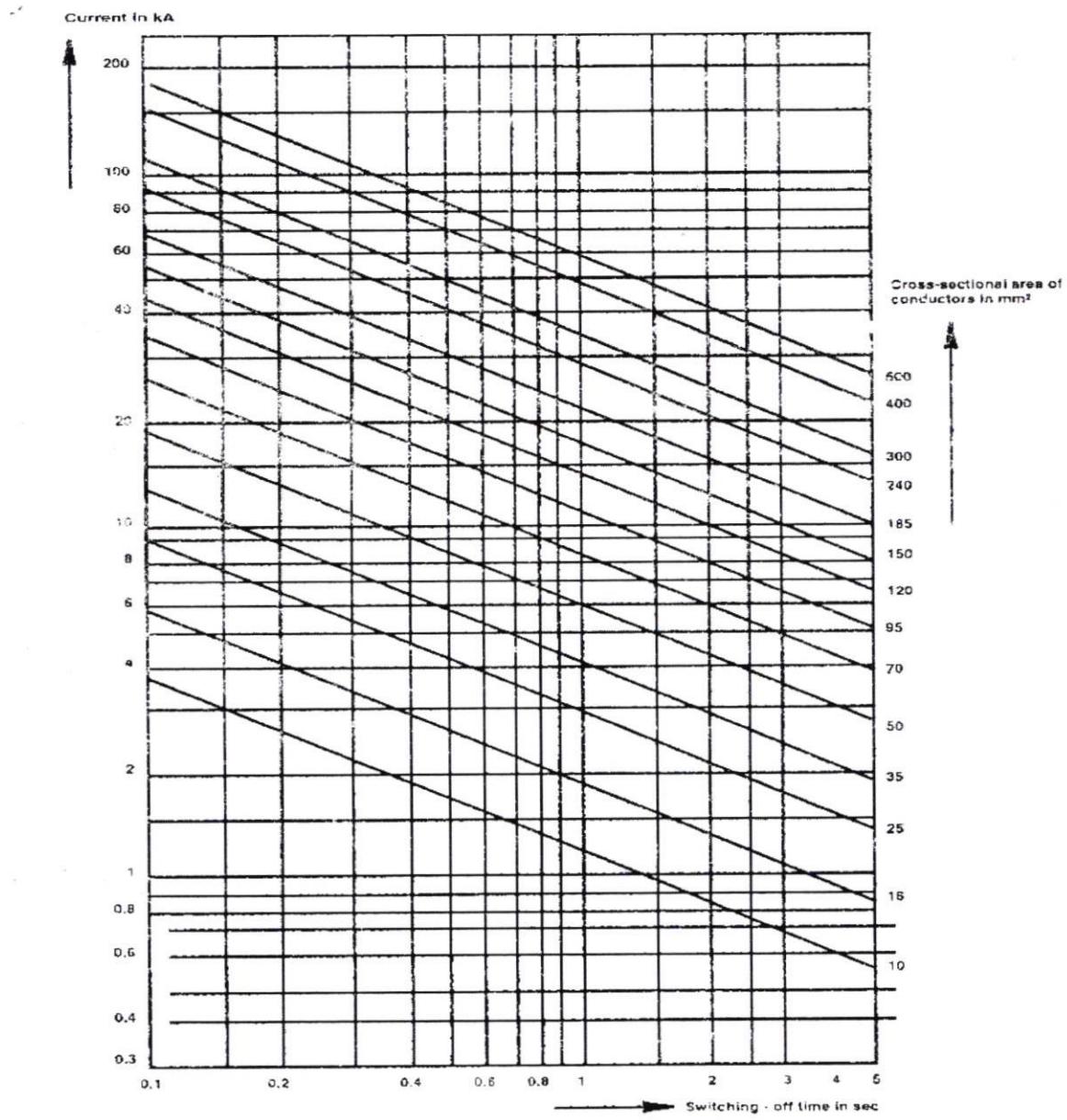
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ANNEXURE 1.2**Short Circuit Loading Capacity**

The possible short circuit current which a cable will be subject to for a short time is dependent on the short circuit conductor of the circuit the connected short circuitry the damping apparatus e. g Transformer, Reactor etc. and as well as the distance of the short circuit point from the generating station. The short circuit current should, therefore, be calculated for every point of the circuit.

**Permissible short-circuit current for Copper Conductors**

From this calculated short circuit current and the known switching-off time? The cross-section can be determined" from the Diagram illustrating the short circuit capacity for PVC cables up to voltage $E / E_0 = 10 / SB$ KV and various cross-sections.

Whereas the allowable conductor temperature for continuous full load operation are 70°C and 65°C for cables up to 6KV and of 10KV respectively, the corresponding limiting temperatures of conductors at short circuit are 160°C and 155°C . It is evident from the curve that the shorter the switching-off time the smaller is the cross-section, the greater is the economy.

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ANNEXURE 1.3**Determination of Voltage Drop.**

The voltage drop can be calculated from the following formulae :

WHEN CURRENT IN KNOWN

Direct current (2 wire circuit)

$$e = \frac{2.L.I}{\lambda.A.}$$

(Volt)

$$e = \frac{2.L.W}{\lambda.A.V.}$$

(Volt)

$$e = \frac{2.L.I}{\lambda.A.V.} \times 100$$

(%)

$$e = \frac{2.L.W}{\lambda.A.V.V.} \times 100$$

(%)

Single phase A.C. (2 Wire circuit)

$$e = \frac{2.L.I}{\lambda.A.} \cos \phi$$

(Volt)

$$e = \frac{2.L.W}{\lambda.A.V.}$$

(Volt)

$$e = \frac{2.L.I}{\lambda.A.V.} \cos \phi \times 100$$

(%)

$$e = \frac{2.L.W}{\lambda.A.V.V.} \times 100$$

(%)

Three phase A.C.:

$$e = \frac{L.I.\sqrt{3}}{\lambda.A.} \cos \phi$$

(Volt)

$$e = \frac{L.W}{\lambda.A.V.}$$

(Volt)

$$e = \frac{L.I.\sqrt{3}}{\lambda.A.V.} \cos \phi \times 100$$

(%)

$$e = \frac{L.W}{\lambda.A.V.V.} \times 100$$

(%)

Using these formulae the cross-section can be determined form the given voltage-drop.

Meaning of the alphabets in the above formulae :

V = Service Voltage = (Volt)

e = Voltage Drop (Volt) or (%)

I = Current (Amp)

W = Effective Power (Watt)

A = Conductor Cross-section (mm^2)

L = Cable Length (m)

λ = Conductivity ($\text{m}/(\text{ohm}\cdot\text{mm}^2)$) : for copper = 56 at 20°C
for aluminium = 34 at 20°C

$\cos\theta$ = Power factor.

ANNEXURE 1.4

SELECTION OF CABLES

1 General:

For proper selection of a cable, the following particulars should be known :

- a) Power to be transferred
- b) Numbers of Cores
- c) Shape of cores
- d) Conductor material
- e) Service Voltage
- f) Nature of current (e.g. A.C. 50 cycle)
- g) Nature of cable laying (e.g. laying on earth, laying in air)
- h) Purpose of use
- i) Length of cable.

2 Selection of Cross-section

The cross-section of a cable is dependent of three factors

- i) Allowable heating of the cable, allowable voltage drop and short circuit loading capacity.
- ii) The maximum allowable heat of the cable conductor.
- iii) The maximum allowable rise of the temperature of conductor as well as the corresponding current loading for every cross-section may be obtained from charts/tables furnished by the cable manufacturers.

The current can be determined from the following relation :

- a) For D.C. $I = W/V$
- b) For A.C. single phase $I = W/V \cos\theta$
- c) For A.C. three phase $I = W/\sqrt{3}V\cos\theta$

W = Power in KW.

V = Voltage in KV (phase to phase voltage for three phase A.C.)

I = Current in Ampere,

$\cos\theta$ = Power factor.

After calculating the current and selecting the type of cable the cross-section can be determined by comparing the current ratings with the cross-section given in the table of corresponding type of cable. The rating factors for deviated condition, if any, should be considered before determination of the cross-section.

ANNEXURE 1.4**Table 4: Minimum Cross-sectional Area of Copper ECCs in Relation to the Area of Associated Phase Conductors**

Cross-sectional Area of Phase Conductor(s) (mm ²)	Minimum Cross-sectional Area of the Corresponding Earth Conductor (mm ²)
Less than 16	Same as cross-sectional area of phase conductor
16 or greater but less than 35	16 mm ²
35 or greater	Half the cross-sectional area of phase conductor

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ANNEXURE 1.5: CURRENT CARRYING CAPACITY (IN AMPERE) OF DIFFERENT TYPES CABLES USED BY PWD

CROSS SECTION	NO./DIA OF WIRE	BYA		BYM				BYFYE		NYY				NYFGbY		NYSEYFGbY		XLPE					
		1-CORE		1-CORE		2-CORE		¾-CORE		2-CORE		1-CORE		2-CORE		¾-CORE		¾-CORE		3-CORE			
mm ²	mm	C	S	C	S	C	S	C	S	C	S	C	S	C	S	U/G	A	U/G	A	U/G	A		
1.0 RE	1/1.13	13	16	13	16	1	15	11	12	13	15	-	-	-	-	-	-	-	-	-	-		
1.5 RE	1/1.38	16	20	16	20	16	18	15	16	16	18	27	22	25	19	22	16	-	-	-	-		
2.5 RE	1/1.78	22	28	22	28	22	26	20	22	22	26	36	30	34	27	30	23	-	-	-	-		
4 RM	7/0.85	30	37	30	37	30	33	27	30	30	33	47	39	44	35	38	32	-	-	-	-		
6 RM	71.04	38	47	43	47	37	43	33	27	37	37	59	50	55	45	45	48	-	-	-	-		
10 RM	7/1.35	52	63	52	63	50	60	46	51	-	-	78	69	74	62	64	56	-	-	-	-		
16 RM	7/1.70	70	85	70	85	66	80	58	67	-	-	100	94	97	84	83	75	83	75	79	100	105	
25RM/SM	7/2.14	91	110	91	110	75	88	66	77	-	-	130	125	125	110	110	98	110	98	100	100	120	140
35RM/SM	7/20/2.03	112	136	112	136	92	108	81	90	-	-	155	160	150	140	130	120	130	120	120	120	150	170
50RM/SM	19/20/1.83	136	164	-	-	-	-	-	-	-	-	185	195	-	-	155	150	155	150	140	145	180	200
70RM/SM	19/20/2.10	173	207	-	-	-	-	-	-	-	-	225	245	-	-	190	190	190	190	170	170	225	255
95RM/SM	19/20/2.52	216	253	-	-	-	-	-	-	-	-	270	300	-	-	225	230	225	230	200	220	260	305
120RM/SM	37/39/2.03	244	291	-	-	-	-	-	-	-	-	310	350	-	-	260	270	260	270	230	250	300	350
150RM/SM	37/39/2.27	-	333	-	-	-	-	-	-	-	-	350	405	-	-	295	305	295	305	260	290	330	400
185RM/SM	37/39/2.52	-	381	-	-	-	-	-	-	-	-	390	460	-	-	330	350	330	350	290	325	370	455
240RM/SM	61/39/2.24	-	452	-	-	-	-	-	-	-	-	450	555	-	-	385	410	385	410	200	220	430	530
300RM/SM	61/39/2.39	-	526	-	-	-	-	-	-	-	-	515	640	-	-	425	470	425	470	-	-	470	600
400RM/SM	61/2.89	-	639	-	-	-	-	-	-	-	-	585	770	-	-	480	530	-	-	-	-	525	675
500RM/SM	61/3.23	-	752	-	-	-	-	-	-	-	-	680	900	-	-	525	600	-	-	-	-	-	-
630RM/SM	127/2.52	-	855	-	-	-	-	-	-	-	-	800	1030	-	-	590	690	-	-	-	-	-	-

(S) Sub Head-1
 (E) Sub Head-2
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 (K) Sub Head-17
 (M) Sub Head-18
 (N) Sub Head-19
 (O) Sub Head-20
 (V) Sub Head-21
 (X) Sub Head-22
 (Y) Sub Head-23
 (Z) Sub Head-24