

# WRAPS CLOTHES-LINE LTD

Corporate Office:

House No: 994, Flat No: A-6, Road No: 10, Avenue No: 12

Mirpur DOHS, Dhaka-1216, Bangladesh

Email: shadathfaisal@gmail.com

Factory Premises:

Jamirdiya, Master Bari

Valuka

Mymensingh

## WORK ORDER

REF:WCLL/FID/EW/LO/SST/CWPL-01/2019

Date: January 07, 2020

To

Engr. Md. Harunor Rashid

Chief Operating Officer

Cross-World Power Ltd.

Plot 1/B, Road 90, Gulshan-2,

Dhaka-1212, Bangladesh

**SUB: WORKORDER for Supply & Installation of 630KVA, 11/0.415 KV Substation Equipment at Factory premises of Wraps Clothes-line Ltd at Square MasterBari, Jamirdiya, Valuka, Mymensingh.**

Dear Mr Harunor Rashid

With reference to your quotation letter no CWPL/SS/WCLL/05012020 dated 05 January, 2020 on the captioned subject and subsequent discussion, our management is pleased to place this Work Order to your Company "Cross-world Power Ltd" for supplying, installation, testing & commissioning of 11/0.415 KV, 630 KVA substation at our Factory Premises as per following technical specification & Terms & Conditions:

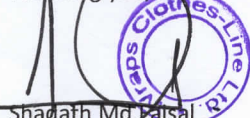
SL	Product Description	Qty	Unit	Total Price (in BD Taka)
1	11 kV HT Switchgear (VCB)	1	Set	19,80,000.00
2	1000A LT Switchgear	1	Set	
3	1000A Main Distribution Board (MDB-GF)	1	Set	
4	380 kVAR Auto/Manual PFI Plant	1	Set	
5	Drop out Fuse as per technical specification	1	Set	
6	Lightning Arrester as per technical specification	1	Set	
7	Heat Shrinkable Kit	4	Set	
8	Earthing for Substation	4	Set	
9	Delivery, Loading & Unloading	1	Job	
10	Installation, Testing, Commissioning	1	Job	
11	Miscellaneous charges for ELB	1	Job	
GRAND TOTAL		IN BDT		19,80,000.00

In words: BD Taka Nineteen Lac Eighty Thousand Only.

Along this letter, I am attaching the detailed list of the Technical Specification that is requisite. Please make sure that SST Equipments and other related jobs will be furnished and delivered within the agreed time schedule by maintaining the quality standard as the requirement is a bit urgent for the time being.

Hoping to have a long term and fruitful business relationship with your company.

Thanking you,



Shadath Md Faisal  
Managing Director  
Wraps Clothes-Line BD Ltd.

## TECHNICAL SPECIFICATION

	<u>QTY</u>	<u>UNIT</u>
<b>01) 11KV DROP-OUT FUSE</b>	1	Set
11KV Drop -out fuse of following specifications :-		
Rated voltage (nominal)	: 11KV	
Rated max. voltage	: 15KV	
Rated current (conti.) RMS	: 100A	
Interrupt current RMS	: 10KA	
Rated frequency	: 50Hz	
BIL	: 75KV	
Withstand test voltage :		
Dry 1 Min.	: 33KV	
Wet, 10 sec	: 30KV	
<b>02) LIGHTING ARRESTER</b>	1	Set
11KV Lighting arrestor of following specification :-		
Rated voltage (Nominal)	: 9KV	
Rated system voltage	: 12KV	
Frequency	: 50Hz	
Minimum spark over (Rms)	: 14KV	
Maximum spark over (Rms)	: 40KV	
Max. impulse spark (crest)	: 45KV	
Withstand voltage		
(Power frequency 1 Min. dry)	: 28KV	
Withstand voltage		
(Power frequency 10 sec. wet)	: 24KV	
Nominal discharge current	: 5KA	
Impulse current withstand	: 55KA	



## 03) 11KV HT SWITCHGEAR (630A VCB)

Supply of 14 & 16 SWG Sheet Steel Clad, Dust and vermin proof, free standing, floor mounting, Gray POWDER COATED, indoor type, 11KV HT Switchgear. This medium voltage switchgear panel shall be used for secondary distribution sub-station upto 12KV & suitable for an ambient temperature of 45 deg.C and rated rupture capacity of 350MVA complete with all accessories, diagrams, levels, wirings & terminals.

### Technical Data :

Service voltage : 12KV

Rated voltage : 11KV

### Insulation level :

Impulse withstand voltage 1.2/50 micro-sec. : 75KV (Peak)

Power frequency withstand voltage/1 min. : 28KV rms.

The equipment considered under this work order has to be designed, manufactured & tested in accordance with the following applicable IEC standards:

- common clause for high voltage switchgear standards	: IEC 694
- high voltage switchgear in metallic enclosure	: IEC 298
- high voltage ac circuit breakers	: IEC 56
- ac switches and earthing switches	: IEC 129
- high voltage switches	: IEC 265
- high voltage combined switch/fuse for ac current	: IEC 420
- current transformers	: IEC 185
- voltage transformers	: IEC 186
- high voltage fuses	: IEC 282
- control monitoring	: IEC 801

### The switchgear panels shall comprise of :

Enclosure

630A, 12kV, 20kA VCB

6A, TP, MCB

20A, DP, MCB

6A, DP, MCB

Breaker connection insulator

Breaker Connection Bush

Busbar 50x10

HT Busbar Sleeve 50x10

11 kV CT 40/5/5A

Core 1 : 5 VA, Class 0.5M5 for Metering

Core 2 : 5 VA, Class 10P10 for Protection

11 kV PT 11000/V3 : 110/V3

100 VA, Class 0.5

Protection Relay, ABB REJ 601

Ameter

Ameter Selector Switch

Volt meter

Volt meter Selector Switch

110 VAC/DC Control Relay with Base

Indicator Lamp Red, 110 VAC

Indicator Lamp Yellow, 110 VAC

Indicator Lamp Blue, 110 VAC

Indicator Lamp Green, 110 VAC

Green Push Button

Red Push Button

1	No's
1	No's
2	No's
2	No's
1	No's
6	No's
0	No's
12	Meter
15	Meter
3	No's
2	No's
1	No's
1	No's
1	No's
1	No's
1	No's
1	No's
2	Pcs
3	Pcs
1	Pcs
1	No's
1	No's
1	No's

Origin: ABB, Italy





## 04) 630KVA OIL IMMERSED TRANSFORMER

Set 1

Supply of 3 Phase oil immersed, naturally air cooled transformer according to IEC 76 standard with 3 HT bushings and 4LT Bushings, arching horn, conservator, oil level indicator, plugs for oil filling, sampling and draining, lifting lugs & with first filling of oil in Transformer as per Standard fittings: 4 flat bi-directional rollers.

### Technical Data :

Rated Capacity	: 630 KVA
Rated Frequency	: 50 Hz.
Rated Voltage,	
-Primary	: 11000 V
-Secondary	: 415 V/240V at no load
BIL	
-Primary	: 75 KV
-Secondary	: 2.5 KV
Vector Group	: DYn11
Off-load tap changer	: +2.5% to-7.5%
Tap changing	: On HV side off-load Manually from outside.
Interphase connection	: Delta
Dielectric strength	: 28 KV (for 1 min)
LV winding	
-Rated Voltage	: 415/240V
Interphase connection	: Star
Neutral	: Fully insulated & brought out
Dielectric strength	: 2.5 KV (for 1 min)
Ambient Temp.	: 40° C
Temperature rise	
-in oil	: 60° C
-in coil	: 65° C
No Load Loss	: 1102 W (IEC 60076)
Full Load Loss	: 6634 W (IEC 60076)
Impedance	: 4.87%
Installation	: Indoor/Outdoor
Cooling	: ONAN
Conductor	: Copper

**Core :** The core of the Transformer consists of 0.25 to 0.27 mm thickness, CRGO BS 601/ASTM High grad M4 silicon steel (POSCO: KOREA, NIPPON: JAPAN).

**Transformer Protection:** Buchholz Relay and Dial Thermometer. (1 set)

**Insulating Materials:** Tomoegawa Paper, Japan/Italy (Ramon Board/Press Board).

**Copper Strip:** Gazi Wires/RR/BRB Industries Ltd., Bangladesh.

**Coil:** HV/LV wires (Gazi Wires/RR/BRB Bangladesh.)


**Transformer Oil:** Electrol, India

LV insulated copper bar, **BRB**.

Other insulated materials and fittings, Italy.

**Assembled & Tested by: Shakti**



  
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## 04) 630KVA OIL IMMERSED TRANSFORMER

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Rated Voltage,	
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BIL	
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Vector Group	: DYn11
Off-load tap changer	: +2.5% to -7.5%
Tap changing	: On HV side off-load Manually from outside.
Interphase connection	: Delta
Dielectric strength	: 28 KV (for 1 min)
LV winding	
-Rated Voltage	: 415/240V
Interphase connection	: Star
Neutral	: Fully insulated & brought out
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Ambient Temp.	: 40° C
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**Copper Strip:** Gazi Wires/RR/BRB Industries Ltd., Bangladesh.

**Coil:** HV/LV wires (Gazi Wires/RR/BRB Bangladesh.)

**Transformer Oil:** Electrol, India

LV insulated copper bar, **BRB**.

Other insulated materials and fittings, Italy.

**Assembled & Tested by: Shakti**



## 05) 1000A LT SWITCHGEAR PANEL

1 Set

Supply of Sheet steel clad powder coated (14 & 16 SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type LT Switchgear Panel with 1000A Hard Drawn Copper Busbar.

Set of components required for the manufacture of LT Panel comprising :-

### INCOMING FROM REB :

1000A, 66KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxiliary Contact

Pcs 1

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release

**Brand & Origin : ABB, Italy.**

1000/5A Current Transformer 10/5VA, Class-1

Pcs 3

Digital Multi Function Meter

Pcs 1

CB ON OFF TRIP Indication lamp

Pcs 3

ON & OFF push button

Pcs 2

1x6A,TP MCB for the protection of control circuit

Pcs 2

1x2A,SP MCB for the protection of control circuit

Pcs 6

Electrical Interlock

Set 1

### INCOMING FROM GENERATOR :

1000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxiliary Contact

Pcs 1

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release

**Brand & Origin: ABB, Italy.**

1000/5A Current Transformer 10/5VA, Class-1

Pcs 3

Digital Multi Function Meter

Pcs 1

CB ON OFF TRIP Indication lamp

Pcs 3

ON & OFF push button

Pcs 2

1x6A,TP MCB for the protection of control circuit

Pcs 2

1x2A,SP MCB for the protection of control circuit

Pcs 6

### OUTGOING FOR PFI:

630A, TP, 50kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs 1

**Brand & Origin: ABB, Italy.**





1000A, TP, 50kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

**Brand & Origin: ABB, Italy.**

Pcs 1

250A, TP, 36kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

**Brand & Origin: ABB, Italy.**

Pcs 1

63A, TP, 18kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

**Brand & Origin: ABB, Italy.**

Pcs 3

40A, TP, 18kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

**Brand & Origin: ABB, Italy.**

Pcs 2

## BUSBAR Details

1000A TPN+E Common Busbar

2x1000A TP Terminal Busbar

1x630A TP Terminal Busbar

1x250A TP Terminal Busbar

Meter At actual

Meter At actual

Meter At actual

Meter At Actual

## ENCLOSURE As Standard.

Box 2

Connection Accessories.

Job 2

**Assembled & Tested by: CWPL**



## 06) 1000A MAIN DISTRIBUTION BOARD (MDB-GF)

1 Set

Supply of Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type MDB Panel with 1000A Hard Drawn Copper Busbar.

Set of components required for the manufacture of MDB Panel comprising :-

**1600A (10X100X1.6) TP N+E Copper Busbar equipped with:**

### INCOMING FROM LT PANEL :

1000A, TP, 50kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs 1

**Brand & Origin : ABB, Italy.**

1000/5A Current Transformer 10/5VA, Class-1

Pcs 3

Digital Multi Function Meter

Pcs 1

1x6A,TP MCB for the protection of control circuit

Pcs 2

1x2A,SP MCB for the protection of control circuit

Pcs 6

Electrical Interlock

Set 1

### OUTGOING FOR RISER BBT :

800A, TP, 50kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs 1

**Brand & Origin : ABB, Italy.**

### OUTGOING FOR GF-BBT :

320A, TP, 36kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs 1

**Brand & Origin : ABB, Italy.**

100A, TP, 25kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs 2

**Brand & Origin : ABB, Italy.**

63A, TP, 25kA, 415V, 50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs 1

**Brand & Origin : ABB, Italy.**

10A, TP, 6kA, 415V, 50Hz, MCB

Pcs 6

20A, SP, 6kA, 415V, 50Hz, MCB

Pcs 8

**Brand & Origin : ABB, Italy.**

### BUSBAR Details

1000A TPN+E Common Busbar

Meter At actual

1x800A TP Terminal Busbar

Meter At actual

1x320A TP Terminal Busbar

Meter At actual

### ENCLOSURE As Standard.

Box 1

Connection Accessories.

Job 2

**Assembled & Tested by: CWPL**





## 07) 380kVAR Auto/Manual PFI Plant

1 Set

Supply of Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 630A hard drawn copper busbar.

Set of components required for the manufacture of PFI Panel comprising :-

1X100(25X4) kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing  
compact PF capacitors bank with discharge resistor.

Nos. 4

**Brand & Origin : Epcos, India**

3X50(25X2) kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing  
compact PF capacitors bank with discharge resistor.

Nos. 6

**Brand & Origin : Epcos, India**

3X25 kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing  
compact PF capacitors bank with discharge resistor.

Nos. 3

**Brand: Epcos, India**

3X12.5 kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing .  
compact PF capacitors bank with discharge resistor.

Nos. 3

**Brand: Epcos, India**

1X10 kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing .  
compact PF capacitors bank with discharge resistor.

Nos. 1

**Brand: Epcos, India**

1X 5 kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing .  
compact PF capacitors bank with discharge resistor.

Nos. 1

**Brand: Epcos, India**

1X2.5 kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing .  
compact PF capacitors bank with discharge resistor.(Fixed)

Nos. 1

**Brand: Epcos, India**

### **MAGNETIC CONTACTOR**

Magnetic contactor with damping resistor for 50Kvar capacitor.

Nos 5

**Brand & Origin: ABB, Sweden.**

Magnetic contactor with damping resistor for 25Kvar capacitor.

Nos 3

**Brand & Origin: ABB, Bulgaria.**

Magnetic contactor with damping resistor for 12.5Kvar capacitor.

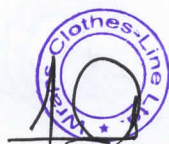
Nos 3

**Brand & Origin: ABB, Bulgaria.**

Magnetic contactor for 10 & 5 Kvar capacitor.

Nos 2

**Brand & Origin: ABB, Bulgaria.**



# WRAPS CLOTHES-LINE LTD

Corporate Office:

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Mirpur DOHS, Dhaka-1216, Bangladesh

Email: shadathfaisal@gmail.com

Factory Premises:  
Jamirdiya, Master Bari  
Valuka  
Mymensingh

125A, TP MCCB (Brand & Origin: ABB, Italy.)

Nos 5

63A TP MCB (Brand & Origin: ABB, Italy.)

Nos 3

32A TP MCB (Brand & Origin: ABB, Italy.)

Nos 3

16A TP MCB (Brand & Origin: ABB, Italy.)

Nos 3

Auto manual selector switch with adder block.

No 1

2A SP MCB

No 12

10A TP MCB

No 1

1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.luminescent indicators & digital power factor meter.

No 1

Origin: Mikro, Malaysia

1x630A TP+E Common Busbar

Enclosure As Standard.

General Accessories.

meter At actual

Set 1


Job 1

## 08) Substation Earthing

<b>Earthing Boring :</b>			
Earthing of electrical installation with 38.5 mm (1.5") dia G.I. pipe (Bashundhara Silver) throughly (2 swg earth electrode) having 6.35 mm dia holes across dia at 305 mm interval securedly bonded with washer, nuts, bolts etc. sunk upto a depth of (10+10) ft with GIP pipe to attain earth resistance <1 ohm including blind socket for water pouring facility.			
<b>Earthing Copper Lead :</b>			
Installation of solid cooper wire earthing lead 2 SWG in 38.1 mm dia GI pipe & termination of connection at both end - 120ft			
<b>Copper Lead Laying :</b>			
Copper lead through 20 mm (3/4") dia pvc flexible pipe including fitting, fixing the PVC pipe in wall, floor, earth or column complete as require -10meter			

### Other Conditions:

- Warranty: For all parts 24 months after the date of commissioning.
- All Panel Boards should be Double Doors with Glass.
- Payment Mode: As per the agreed decision made by both parties – "Wraps Clothes-line Ltd" and "Cross World Power Ltd".
- Any Civil work is beyond suppliers' scope of offer.

  
Received By  
(Signature with date)  
On behalf of Cross-World Power Ltd

