

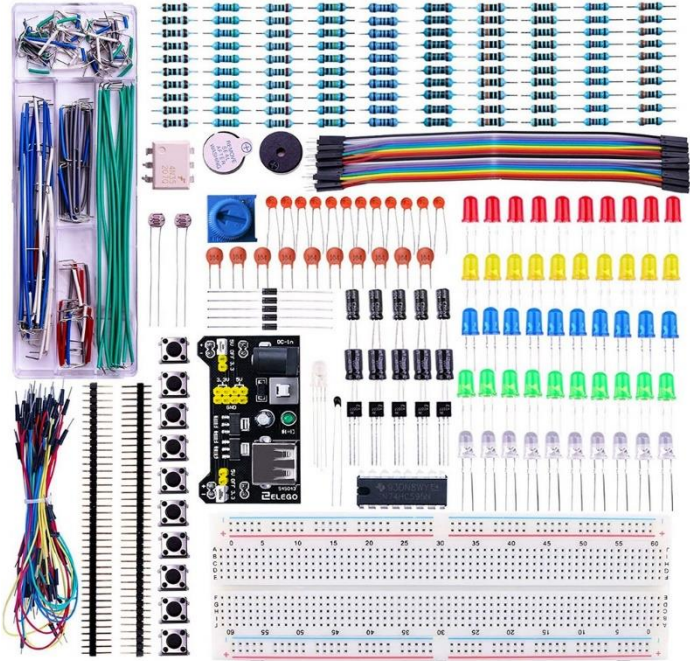
1 SET OF MECHATRONICS AND ROBOTICS TRAINING MATERIALS AND EQUIPMENT

| Item Number | Description | Quantity | Unit | Cost |
|-----------------------------|---|----------|-------|--------------|
| BASIC ELECTRONICS | | | | |
| 1 | Breadboard Set Electronic Component Starter Kit | 30 | set | ₱ 16,500.00 |
| 2 | Li-ion Battery | 40 | pcs | ₱ 8,800.00 |
| 3 | Li-ion Battery Holder | 10 | pcs | ₱ 1,000.00 |
| 4 | Breadboard MB102 | 40 | pcs | ₱ 6,000.00 |
| 5 | Universal PCB (5x7 Perfboard Plates) | 60 | pcs | ₱ 2,700.00 |
| 6 | Soldering Iron Set | 10 | pcs | ₱ 8,000.00 |
| 7 | Soldering Lead (0.8mm) | 10 | rolls | ₱ 6,500.00 |
| 8 | Soldering Paste | 10 | pcs | ₱ 500.00 |
| 9 | Stranded Wires AWG 22 | 10 | set | ₱ 5,000.00 |
| 10 | Set of Pliers | 10 | set | ₱ 3,500.00 |
| 11 | Screwdriver Set | 10 | set | ₱ 4,000.00 |
| MICROCONTROLLER PROGRAMMING | | | | |
| 12 | Gizduino + 644 Starter Kit with 2x16 LCD | 50 | kits | ₱ 90,000.00 |
| ROBOTICS | | | | |
| 13 | Smart Robot Car 2WD Chassis Kit V2 | 30 | kits | ₱ 84,000.00 |
| 3D PRINTING | | | | |
| 14 | 1kg Polylactic Acid (PLA) 3D Printing Filament | 10 | kg | ₱ 10,000.00 |
| 15 | 3D Printer Mini Desktop Printing Machine | 10 | units | ₱ 160,000.00 |
| TOTAL | | | | ₱ 406,500.00 |
| GRAND TOTAL OF 2 SETS | | | | ₱ 813,000.00 |

TERMS OF REFERENCE

BREADBOARD SET ELECTRONIC COMPONENT BASIC STARTER KIT

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|---|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | BREADBOARD SET ELECTRONIC COMPONENT BASIC STARTER KIT | 550.00 | 550.00 |



SPECIFICATIONS:

Material: Electronic material
Color: As shown in the images
Model: 830 Breadboard
Voltage of Power supply: 5V
Current of Power Supply: 1A
Power: 100W
Item Weight: Approx. 250g / 8.82oz
Size: Approx. 18*8.7*4.5cm / 7.09*3.43*1.77in

PACKAGE INCLUDED:

- 1x Power Supply Module WARNING: Pls. do not use the voltage higher than 9V
- 1x 830 tie-points Breadboard

20x Female-to-male Dupont Wire

2x Photoresistor

5x NPN Transistor (PN2222)

1x Active Buzzer

10x 22pf Ceramic Capacitor

5x Electrolytic Capacitor (100UF 50V)

10x Blue LED

1x RGB LED

10x Resistor (220R)

10x Resistor (2K)

10x Resistor (100K)
- 1x 65 Jumper Wire

2x Pin header (40pin)

1x Thermistor

1x IC 4N35

1x Passive Buzzer

10x 104 Ceramic Capacitor

10x White LED

10x Green LED

10x Resistor (10R)

10x Resistor (330R)

10x Resistor (5K1)

10x Resistor (1M)
- 140x Solderless Jumper Wire

1x Precision Potentiometer

5x Diode Rectifier (1N4007)

1x IC 74HC595

10x Button (small)

5x Electrolytic Capacitor (10UF 50V)

10x Yellow LED

10x Red LED

10x Resistor (100R)

10x Resistor (1K)

10x Resistor (10K)

TERMS OF REFERENCE

3.7V LITHIUM-ION 18650 BATTERY

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--------------------------------|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | 3.7V LITHIUM-ION 18650 BATTERY | 220.00 | 220.00 |



SPECIFICATIONS:

3.7V 3000mAh 18650 Lithium-ion Battery
Capacity: 3000mAh
Nominal Voltage: 3.7v
Full Charge Voltage: 4.2v
Max Current Discharge: 7.8A
Charging Current: 1A
Max charging current: 2A
Chemistry: Li-ion (Lithium-ion)
Recharge: up to 1000 cycles
Length: 65.10mm
Width: 18.35mm
Weight: 48g
Charging environment temperature range: 32° to 113° F
In use temperature range: -4° to 140° F

APPLICATIONS:

Robotics, Flashlight, headlamp, lantern, LED light, dive light, green laser, fan, headlight, torch, laser pointer, gun laser, weapon light, vape, mechanical box mod and so on.

TERMS OF REFERENCE

LITHIUM-ION BATTERY HOLDER

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | 4-CELL PARALLEL 3.7V 18650 LI-ION BATTERY HOLDER | 100.00 | 100.00 |



SPECIFICATION:

4-Cell 18650 Battery Holder
Material: Plastic
Color: Black, as picture shows
Compatible: 18650 size battery

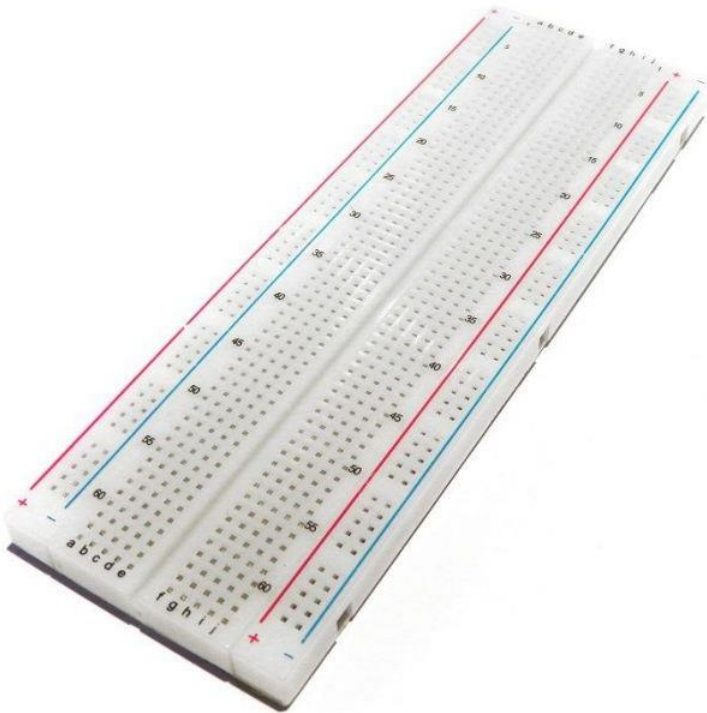
PACKAGE INCLUDED:

1x Battery box (battery is not included)

TERMS OF REFERENCE

FULL SIZE SOLDERLESS BREADBOARD MB102 830 CONTACT POINTS

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | FULL SIZE SOLDERLESS BREADBOARD MB102 830 CONTACT POINTS | 150.0 | 150.0 |



DESCRIPTION:

The solderless breadboards do not require soldering, they are completely re-usable. This makes it easy to use for creating temporary prototypes and experimenting with circuit design which is a construction base for prototype of electronics.

SPECIFICATIONS:

Fit for 20-29 AWG (0.4-0.7MM) wire. Comparing with breadboards of high AWG wire.

Specifications:

- 2 bus strips (distribution strips)
- 1 Terminal Strip
- Socket Pitch 0.1
- Contact Points: 830
- ABS plastic

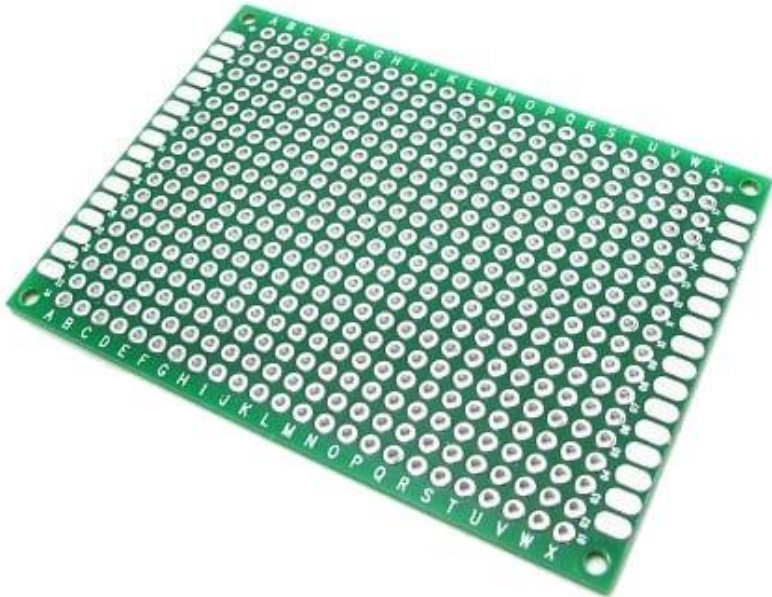
PACKAGE INCLUSION:

1x Breadboard

TERMS OF REFERENCE

PROTOBOARD UNIVERSAL PCB

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|---|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | FR4 PROTOBOARD UNIVERSAL PCB 5X7CM - DOUBLE SIDED | 45.0 | 45.0 |



DESCRIPTION:

This double-sided universal PCB is made from fiberglass material making it more durable compared to phenolic paper PCB (Brown Colored Boards). The holes are also tinned, preventing oxidation, thus making soldering less difficult.

SPECIFICATIONS:

- Base Material: FR - 4
- Board Size: 5 x 7cm
- Protoboard Type: Double Side
- Board Thickness: 1.6mm
- Hole Pitch: 2.54mm
- Hole Quantity: 18 x 24

TERMS OF REFERENCE

SOLDERING IRON TOOLS AND EQUIPMENT SET

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|---|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | 60W SOLDERING IRON HANDY KIT 200-450°C ADJUSTABLE TEMPERATURE TOOLS AND EQUIPMENT SET | 800.00 | 800.00 |



DESCRIPTION:

15-in-1 60W 220V Soldering Iron Handy Kit 200-450°C Adjustable Temperature tools and equipment set. A hand tool used to heat solder, usually from an electrical supply at high temperatures above the melting point of the metal alloy. This allows for the solder to flow between the workpieces needing to be joined.

PACKAGES INCLUDE THE FOLLOWING:

- 1x Soldering Iron

5x Soldering Iron Tips

1X Soldering Iron Stand

1x Cleaning Sponge

2x Electronic wires
- 1x Desoldering Pump

1x Tin Wire Tube,

1x Tweezers

1x Wire Stripper Cutter

1x Fabric Zipper Case

TERMS OF REFERENCE

0.8MM 60/40 SOLDERING LEAD ROSIN CORE WELDING IRON

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | 0.8MM 60/40 SOLDERING LEAD ROSIN CORE WELDING IRON | 650.00 | 650.00 |



DESCRIPTION:

Soldering lead - (0.8mm) with a 60/40 water soluble resin core. This roll is for advanced users and last for 6 -12 months of used.

SPECIFICATIONS:

60/40 rosin core solder
Components: Sn 60%, Pb 40%
Wire diameter: 0.8 mm
Melting point: About 210?
Size: Approx. 55 x 55 mm / 2.17” x 2.17”
Package: Roll
Good solderability

APPLICATION:

For soldering PBCs and electronics

TERMS OF REFERENCE

SOLDERING FLUX GREASE SOLDER PASTE

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|------------------------------------|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | SOLDERING FLUX GREASE SOLDER PASTE | 50.00 | 50.00 |



DESCRIPTION:

Solder paste is a form of solder that is used in PCB assembly, and including prototype PCB assembly, especially when using reflow soldering techniques.

FEATURES:

- Non-Corrosive, safe for electronics
- In rust proof plastic container
- Gross Weight: 20g

TERMS OF REFERENCE

22 AWG TINNED COPPER STRANDEDS WIRES

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--------------------------------------|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | 22 AWG TINNED COPPER STRANDEDS WIRES | 500.00 | 500.00 |



DESCRIPTION:

Name: UL1007 22AWG wire
Conductor: 17*0.14TS (tinned copper wire)
Temperature: 80 ° C
Voltage: 300V
Outer diameter: 1.6mm
Features: PVC electronic wire, tinned copper wire, using standard thickness, easy to peel and cut.
Uses: Internal wiring of electrical and electronic equipment
1 box: 5*5=25 meters

TERMS OF REFERENCE

HARDEN MINI PLIERS SET OF 3 CLASSIC HAND TOOLS

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | HARDEN MINI PLIERS SET OF 3 CLASSIC HAND TOOLS | 350.00 | 350.00 |



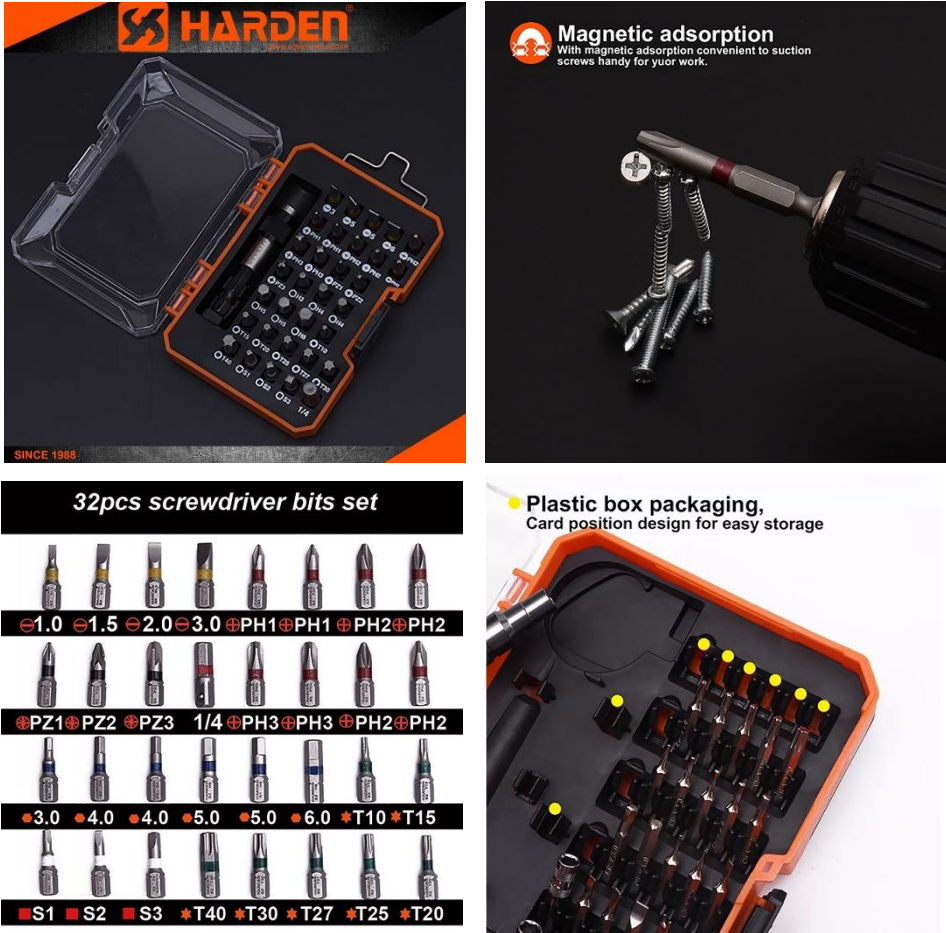
DESCRIPTION:

3Pcs Mini Pliers Set
Made of carton steel
Nickle finish
High-frequency hardened and comfortable ergonomic TPR handle
Classic

TERMS OF REFERENCE

MAGNETIC SCREWDRIVER BITS SET TOOL KIT

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|---|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | HARDEN 33PCS MAGNETIC SCREWDRIVER BITS SET REPAIR TOOL KIT | 400.00 | 400.00 |



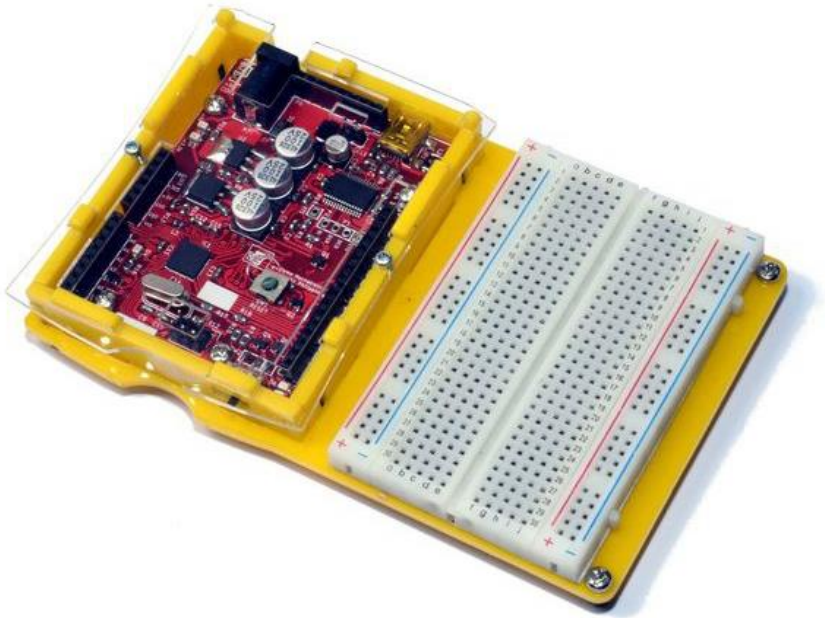
DESCRIPTION:

- 33Pcs Screwdriver Bits Set
- *1Pc stainless steel bit holder with quick release
 - *4Pcs S2 Flat bits: 3, 5x2, 6
 - *8Pcs S2 Philip bits: PH1x2, PH2x4, PH3x2
 - *3Pcs S2 Pozi bits:PZ1, PZ2, PZ3
 - *6Pcs S2 Hex bits: 3, 4x2, 5x2, 6
 - *7Pcs S2 Torex bits: T10,T15,T20,T25,T27,T30,T40
 - *3Pcs S2 Square bits: S1, S2, S3
 - *1Pc 1/4" Adaptor



TERMS OF REFERENCE
GIZDUINO + 644 STARTER KIT WITH 2X16 LCD

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | GIZDUINO + 644 STARTER KIT WITH 2X16 LCD | 1,800.00 | 1,800.00 |



DESCRIPTION:

This Starter Kit is the most suitable for you! it contains the most basic learning materials for microcontroller programming and interfacing.

SPECIFICATIONS:

- 32 Programmable I/O Lines

6 PWM Channels

SPI, I2C, JTAG, Timers, etc.

4K Bytes SRAM2K Bytes EEPROM
- 8 Channel, 10-bit ADC

2 Programmable USART

64K Bytes program memory

400-points Breadboard

PACKAGES INCLUDE THE FOLLOWING:

- 8x 560 ohms resistors 1/4w

1x 10K potentiometer

4x 2pins connector

1x CLEAR 5mm LED

3x 10K ohms resistor 1/4w

1x LDR 2pins

20x Connecting wires

2x Button Switch

1x gizDuino + ATmega644P

1x SG-90 Servo motor

1x 72LS595 Shift Register IC

1x 5V Buzzer
- 8x RED 5mm LED

1x 3pins connector

8x GREEN 5mm LED

1x 1N4002 DIODE

1x 2.2k ohms resistor

1x DC motor

1x LM35 Temperature sensor

1x Relay 5V Ea2-4.5NU

1x Solderless breadboard (ZY-60)

1x Transistor MPS2222A

1x 3pins connector

1x 2x16 LCD



TERMS OF REFERENCE

SMART ROBOT CAR 2WD CHASSIS KIT V2

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|------------------------------------|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | SMART ROBOT CAR 2WD CHASSIS KIT V2 | 2,800.00 | 2,800.00 |



DESCRIPTION:

Smart Robot Car 2WD Chassis Kit V2 is specially designed for beginners and students to improve their creativity and hands-on ability. The kit has the following features: ultrasonic avoidance, auto-go follower remote control, line tracking, and gravity sensor. This also includes tutorial or user manual. That guides the user on how to assemble the robot car step-by-step.

PACKAGES INCLUDE THE FOLLOWING:

- 1x UNO R3 Board

1x Ultrasonic Sensor

1x Bluetooth module

2x Line tracking module

1x sg90 Servo

2x Motor

1x Remote

1x Acrylic plates

1x USB cable

1x 4pin XH2.54 to F Dupont

1x Screwdriver

1x Adhesive tap
- 1x Expanding board

1x Ultrasonic holder

2x Photoresistive sensor

2x IR avoid module

1x Servo holder

2x Wheel

1x Battery holder

2x Bag Screws

2x 3pin XH2.54 to F Dupont

4x 3pin F-F Dupont

3x Ties1x Universal wheel

1x tutorial card

TERMS OF REFERENCE
POLYLACTIC ACID (PLA) 3D PRINTING FILAMENT

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|--|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | PLA+ 3D PRINTING FILAMENT 1.75MM 1KG SPOOL | 1,000.00 | 1,000.00 |



DESCRIPTION:

【Dimensional Tolerance +/- 0.03mm】 Minimum tolerance and low warping to ensure consistent feeding and stable prints, no clogging, extremely high successful rate, resulting in printed parts that have an outstanding surface finish and are highly precise.

【Tangle Free & No Plugging】 Total Length: 340-350m. Full 1KG 3D printer filament reel, perfect roundness and very tight diameter tolerance, does not overlap or tangle. Melt well, feed smoothly and constantly without clogging the nozzle or extruder.

【Environmental Friendly Material】 PLA+ is improved and upgraded based on PLA, high strength and better toughness. eSUN filaments are made with virgin materials, biodegradable and eco-friendly, non-toxic and low odor, NO harm to user and environment.

【High Compatibility】 Compatible with most of FDM 3D Printers that use 1.75MM filament, Such as: Prusa, Reprap, Afinia, MakerBot, PrintrBot, UltiMaker, Airwolf, Aleph Objects, Makergear, Up, Lulzbot, Simplify3D, Flashforge, etc.

【Vacuumed Sealed Packaging】 Net Weight: 1KG. eSUN filament comes in a sealed vacuum bag with a desiccant bag to keep it dry and keep out dust and foreign particles, prevent nozzle jams and yield smooth 3D models.

COLORS AVAILABLE :

Black, White, Peak Green, Orange, Yellow, Blue, Red

SPECEFICATIONS:

PLA 1.75 ±0.02mm
N.W: 1.0kg
Nozzle Temp: 190-230°C

TERMS OF REFERENCE
MINI PLASTIC 3D PRINTER

| QTY | UNIT | ITEM/DESCRIPTION | ESTIMATED COST (Php) | |
|-----|------|-------------------------|----------------------|------------|
| | | | UNIT COST | TOTAL COST |
| 1 | LOT | MINI PLASTIC 3D PRINTER | 16,000.00 | 16,000.00 |



SPECIFICATIONS:

| | |
|------------------------------|---------------------------------|
| Technology: | Fused Deposition Modeling (FDM) |
| Build Volume: | 165 x 165 x 180 mm |
| Feeder System: | Bowden |
| Print head: | Single nozzle |
| Nozzle size: | 0.4 mm |
| Max. hot end temperature: | 260 °C |
| Max. heated bed temperature: | 80 °C |
| Print bed material: | Magnetic PEI |
| Frame: | N/A |
| Bed leveling: | Manual |
| Connectivity: | MicroSD |
| Print recovery: | Yes |

PACKAGE INCLUSION:

1 Set Desktop 3D Printer Kit

OTHERS:

| | |
|---|---|
| Training Availability: | The supplier has manpower and capability to conduct training. |
| Installation, Maintenance and Service Availability: | The supplier has manpower and capability to conduct installation, maintenance and service. The supplier does not need to outsource the job. |
| Training and Installation: | 1-day onsite training and installation for at least 2 personnel. |
| Warranty: | 12 Months warranty for parts and service |
| After Sale Support: | Ensure the availability of after sales services and prompt response of not more than 5 working days from date of notice of need. |
| Delivery: | Onsite delivery, installation, and commissioning at Project |
| Delivery Lead Time: | Within 30 Days upon received of Notice to Proceed |