



Government of Maharashtra

# Directorate of Vocational Education and Training

## Craftsman Training Scheme

### SPECIFICATION FOR MECHANICAL POWER TOOLS

Version 4, 2024





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## 1. Drill Bit Set - Metal, Wood and Masonry, Set of 50 Pieces

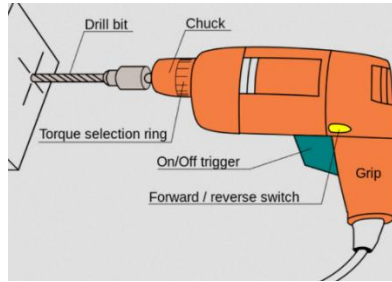
### 1.1 Basic Indicative Diagram:



- 1.2 11 metal drill bits diameter 1.5 – 6.5 mm with titanium nitride coating for faster drilling and long service life (not for use in aluminum)
- 1.3 6 robust carbide-tipped masonry drill bits diameter 4-10mm:
  - 1.3.1 Long service life
  - 1.3.2 Fast stock removal
  - 1.3.3 Low heat development
  - 1.3.4 Precision
- 1.4 5 sharp wood drill bits diameter 4-10mm:
  - 1.4.1 Centering tip and shoulder cutter for precise, tear-free hole drilling
  - 1.4.2 2 spade bits diameter 16/22mm with titanium nitride coating
- 1.5 Suitable for all power tool brands
- 1.6 Package should include:
  - 1.6.1 11 HSS-Tin metal drill bits - diameter 1.5-6.5 mm
  - 1.6.2 6 TC masonry drill bits - diameter 4-10 mm
  - 1.6.3 5 wood drill bits - diameter 4-10 mm,
  - 1.6.4 2 spade bits: Titanium - diameter 16/22 mm
  - 1.6.5 18 screwdriver bits – L = 25 mm: PH 1/ 2/ 2/ 3, PZ 1/ 2/ 2/ 3, S 4/ 6/ 7, HEX 3/ 4/ 5/ 6, T, 15/ 20/ 25
  - 1.6.6 3 nut setters – diameter 7/8/10 mm
  - 1.6.7 1 diameter gauge
  - 1.6.8 1 knife
  - 1.6.9 1 adapter for nut setters
  - 1.6.10 1 universal holder, magnetic
  - 1.6.11 1 countersink
- 1.7 Packaging:
  - 1.7.1 Plastic case with window and printed card
  - 1.7.2 Blow molded and slots to securely hold all 50 pcs

## 2 Portable Electric Impact Drill Machine

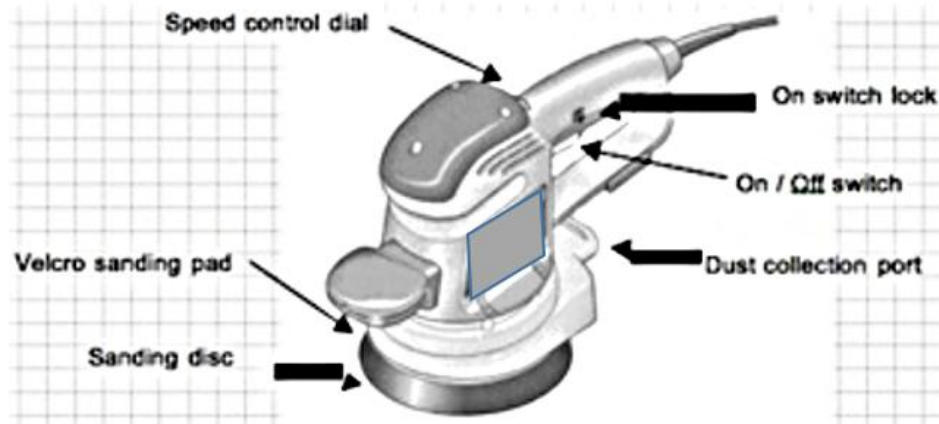
### 2.1 Basic Indicative Diagram:



- 2.2 Drilling machine should generally conforming to IS 36501 - 1981.
- 2.3 Power input: 600 Watt (Min.)
- 2.4 Drilling diameter:
- 2.4.1 Concrete: 13 mm
  - 2.4.2 Steel: 10 mm
  - 2.4.3 Wood: 25 mm
- 2.5 No load speed: 0 – 2800 rpm
- 2.6 Impact rate: 25000 bpm
- 2.7 Should have soft in line grip for a secure hold
- 2.8 Should have Rotating brush plate for constant power in reverse and forward rotation
- 2.9 Should have Forward / Reverse rotation for inserting and removing screws
- 2.10 Should be able to have Easy and precise control of the RPM - variable speed
- 2.11 Should have double insulation – shock proof fiber body
- 2.12 Dimensions:
- 2.12.1 Overall Length in mm ( $\pm 10\%$ ): 275 mm
  - 2.12.2 Overall Height in mm ( $\pm 10\%$ ): 180 mm
  - 2.12.3 Net Weight (without cable & blade) ( $\pm 10\%$ ): 1.7 kg
- 2.13 Protection Class: Double Insulation
- 2.14 Standard Accessories
- 2.14.1 Auxiliary handle = 01 no
  - 2.14.2 Blow molded plastic case to securely fit all pieces for easy organization and convenient portability = 01 no
  - 2.14.3 Depth gauge = 01 no
  - 2.14.4 Spirit level (225 mm) with 3 spirit bulbs (for horizontal, vertical & angular level testing) = 01 no
  - 2.14.5 Knife (Length - 150 mm, Blade width 15 mm) = 01 no
  - 2.14.6 Claw Hammer (Weight 340 grams) = 01 no
  - 2.14.7 Adjustable Wrench (Length 150 mm, Maximum jaw opening 19 mm) = 01 no
  - 2.14.8 Combination Plier (Length 160 mm, Maximum jaw opening 25 mm) = 01 no
  - 2.14.9 Measuring tape (Length 3 meter, 11 mm tape width) = 01 no
  - 2.14.10 Drill bits
    - 2.14.10.1 Masonry: 05 no
    - 2.14.10.2 Wood: 04 no
    - 2.14.10.3 HSS: 05 no
  - 2.14.11 CRV Bit: 10 no
  - 2.14.12 Magnetic Bit Holder: 01 no
  - 2.14.13 Socket: 7 no
  - 2.14.14 Socket Adaptor: 1 no
  - 2.14.15 Assorted Screws: 30 no
  - 2.14.16 Assorted Plastic Plugs: 30 no

### 3 Portable Electric Random Orbital Sander

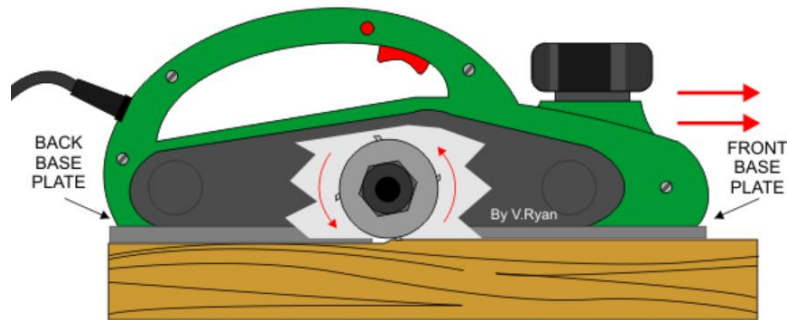
#### 3.1 Basic Indicative Diagram:



- 3.2 Generally conform to IS 36501 - 1981.
- 3.3 Power input: 375Watt (Min.)
- 3.4 Sanding Plate diameter: 150 mm
- 3.5 Oscillating Circuit diameter: 4 mm
- 3.6 No load speed: 5000 – 11500 rpm
- 3.7 Velcro type fastening
- 3.8 Should have Vibration damping system
- 3.9 Should have Speed pre-selection
- 3.10 Should have Greaseless friction brake for quick stops and full work efficiency
- 3.11 Exchangeable pad diameter: 150 mm diameter & 125 mm diameter
- 3.12 Fiber body – shock proof – double insulation
- 3.13 Dimensions:
  - 3.13.1 Overall Length in mm ( $\pm 10\%$ ): 410 mm
  - 3.13.2 Overall Height in mm ( $\pm 10\%$ ): 200 mm
  - 3.13.3 Net Weight (without cable & blade) ( $\pm 10\%$ ): 2.5 kg
- 3.14 Protection Class – Double Insulation
- 3.15 Standard Accessories:
  - 3.15.1 Auxiliary handle
  - 3.15.2 Dust box
  - 3.15.3 150 mm Sanding Pad: 05 no
  - 3.15.4 125 mm Sanding Pad: 05 no

## 4 Portable Electric Planer

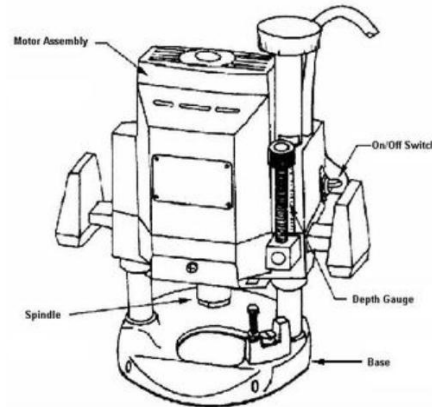
### 4.1 Basic Indicative Diagram:



- 4.2 Generally conforming to IS 36501-1981
- 4.3 Power input: 650 Watt (Min.)
- 4.4 Planning width: 82 mm
- 4.5 Max cutting depth: 2.6 mm
- 4.6 No load speed: 16000 rpm
- 4.7 Optimized airflow for wood chip ejection
- 4.8 Parking shoe
- 4.9 Convenient lock-on switch for left & right hand users
- 4.10 Fiber body – shock proof – double insulation
- 4.11 Dimensions:
  - 4.11.1 Overall Length in mm ( $\pm 10\%$ ): 280 mm
  - 4.11.2 Overall Height in mm ( $\pm 10\%$ ): 140 mm
  - 4.11.3 Overall Width in mm ( $\pm 10\%$ ): 160 mm
  - 4.11.4 Net Weight (without cable & blade) ( $\pm 10\%$ ): 2.8 kg
- 4.12 Planning Blades:
  - 4.12.1 Planning blade straight, tungsten carbide, 35 degree
  - 4.12.2 Planning blades with rounded corners, tungsten carbide, 40 degree
- 4.13 Standard Accessories:
  - 4.13.1 Allen key
  - 4.13.2 Carton box
  - 4.13.3 Parallel guide
  - 4.13.4 Sharpening device for HSS blade
  - 4.13.5 Setting gauge for HSS blade

## 5 Portable Electric Router

### 5.1 Basic Indicative Diagram:

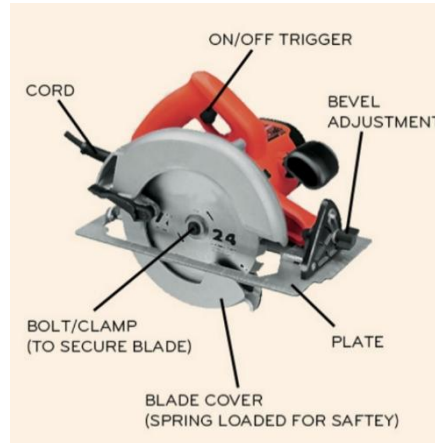


- 5.2 Generally Conforming to IS 36501-1981
- 5.3 Power input: 1400 Watt (Min.)
- 5.4 Tool holder: 6 mm and 8 mm
- 5.5 No load speed: 11000 – 28000 rpm
- 5.6 Should have Constant Electronic to keep selected speed constant at all times and ensure optimum cut quality
- 5.7 Should have Integrated spindle lock
- 5.8 Should have Integrated work light
- 5.9 Should have Fiber body – shock proof – double insulation
- 5.10 Net Weight (without cable & blade) ( $\pm 10\%$ ): 3.5 kg
- 5.11 Protection Class: Vibration emission value ah: 6 m/s<sup>2</sup>
- 5.12 Router bit set: 15 pieces (1/4" shank)
- 5.13 Standard Accessories:
  - 5.13.1 Dust extraction adapter
  - 5.13.2 Open-ended spanner
  - 5.13.3 Template guide
  - 5.13.4 Plastic case
  - 5.13.5 Straight bit (8 mm diameter)
  - 5.13.6 Parallel guide
  - 5.13.7 Centering pin
  - 5.13.8 Collets: 3 pieces of 6 mm, 8 mm and 1/4"



## 6 Portable Electric Circular Saw

### 6.1 Basic Indicative Diagram:



- 6.2 Generally Conforming to IS 36501-1981
- 6.3 Power input: 1100 Watt (Min.)
- 6.4 Saw Blade diameter: 180 mm
- 6.5 No load speed: 5200 rpm
- 6.6 Cutting depth (90 degree): 65 mm
- 6.7 Cutting depth (45 degree): 47 mm
- 6.8 Should have Strong blower for optimum view of the cutting line
- 6.9 Should have Dust extraction hole for effective dust management
- 6.10 Should have Fiber body – shock proof – double insulation
- 6.11 Dimensions:
  - 6.11.1 Overall Length in mm ( $\pm 10\%$ ): 270 mm
  - 6.11.2 Overall Height in mm ( $\pm 10\%$ ): 175 mm
  - 6.11.3 Net Weight (without cable & blade) ( $\pm 10\%$ ): 3.5 kg
- 6.12 Circular Blades:
  - 6.12.1 Wood – 20 teeth
  - 6.12.2 Wood - 24 teeth
  - 6.12.3 Wood – 40 teeth
  - 6.12.4 Wood – 60 teeth
  - 6.12.5 Multi material – 60 teeth
- 6.13 Standard Accessories:
  - 6.13.1 Suitable Allen Key Set
  - 6.13.2 Carton box
  - 6.13.3 Suitable Saw blade
  - 6.13.4 Suitable Wrench

## 7 Portable Electric Jigsaw

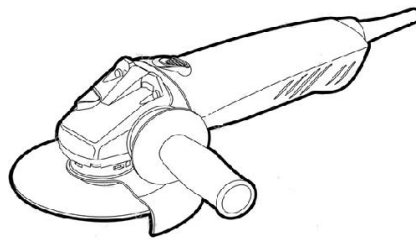
### 7.1 Basic Indicative Diagram:



- 7.2 Generally Conforming to IS 36501-1981
- 7.3 Power input: 570 Watt (Min.)
- 7.4 Stroke height: 26 mm
- 7.5 No load stroke rate: 500 – 3100 rpm
- 7.6 Cutting Depth
  - 7.6.1 Wood: 85 mm
  - 7.6.2 Aluminum: 20 mm
  - 7.6.3 Non-alloy steel: 10 mm
- 7.7 Should have Adjustable saw blade pendulum action
- 7.8 Should have Fast tool-free changing of application tools
- 7.9 Should have Speed preselection for adjusting to suit any application
- 7.10 Should have Saw dust blower can be switched on / off
- 7.11 Should have Fiber body – shock proof – double insulation
- 7.12 Dimensions:
  - 7.12.1 Overall Length in mm ( $\pm 10\%$ ): 270 mm
  - 7.12.2 Overall Height in mm ( $\pm 10\%$ ): 200 mm
  - 7.12.3 Net Weight (without cable & blade) ( $\pm 10\%$ ): 2.5 kg
- 7.13 Jigsaw Blades for Following Material & Other Accessories:
  - 7.13.1 Wood & laminates: 10 pcs
  - 7.13.2 Aluminum: 5 pcs
  - 7.13.3 Mild steel: 5 pcs
  - 7.13.4 Acrylic: 2 pcs
  - 7.13.5 Sandwich material: 2 pcs
  - 7.13.6 Fiber glass: 2 pcs
  - 7.13.7 Stainless steel: 2 pcs
  - 7.13.8 Parallel guide with circle cutter: 1 pc
- 7.14 Standard Accessories:
  - 7.14.1 Carrying case
  - 7.14.2 Anti-splinter guard
  - 7.14.3 3 jig saw blades

## 8 Portable Electric Hand Grinder

### 8.1 Basic Indicative Diagram:



- 8.2 Generally Conforming to ISO 9001:2008
- 8.3 Power input: 670 Watt (Min.)
- 8.4 Wheel Diameter: 4 Inch
- 8.5 Frequency: 50/60 Hz
- 8.6 Amperage: 3 A
- 8.7 Voltage: 220/230 V
- 8.8 Disc Diameter: 100 mm
- 8.9 Cord Length: 2 m
- 8.10 Should have spindle lock
- 8.11 Should have side handle
- 8.12 Should have Fiber body – shock proof – double insulation
- 8.13 Should have Cut-out carbon brushes
- 8.14 Should have Anti-rotation protective guard
- 8.15 Should have Armored coils for protecting the motor
- 8.16 Dimensions: ( $\pm 10\%$ ): 316 mm X 126 mm X 88 mm
- 8.17 No Load Speed: 11000 rpm
- 8.18 Net Weight ( $\pm 10\%$ ): 1.8 Kg
- 8.19 Grinding Spindle Thread: M10
- 8.20 Switch Type: Toggle
- 8.21 Standard Accessories:
  - 8.21.1 Auxiliary handle
  - 8.21.2 Back Flange
  - 8.21.3 Locking Nut
  - 8.21.4 Two-hole Spanner
  - 8.21.5 Protective Guard
  - 8.21.6 100 mm Grinding Discs = 5 Nos
  - 8.21.7 100 mm Cutting Discs = 5 Nos

## 9 Portable Abrasive Cut Off Machine - 14 inch blade

### 9.1 Basic Indicative Diagram



|      |  |                           |
|------|--|---------------------------|
| 9.2  | Cutting Capacity (MS) at rectangle 0°        | 100 X 195 mm (± 5%)       |
| 9.3  | Cutting Capacity (MS) at square 0°           | 120 X 120 mm (± 5%)       |
| 9.4  | Cutting Capacity (MS) at L-profile 0°        | 130 X 130 mm (± 5%)       |
| 9.5  | Cutting Capacity (MS) at rectangle 45° miter | 105 X 115 mm (± 5%)       |
| 9.6  | Cutting Capacity (MS) at square 45° miter    | 110 X 110 mm (± 5%)       |
| 9.7  | Cutting Capacity (MS) at L-profile 45° miter | 115 X 115 mm (± 5%)       |
| 9.8  | Tool dimensions (Width X Length X Height)    | 250 X 520 x 400 mm (± 5%) |
| 9.9  | No-load speed                                | 3800 rpm                  |
| 9.10 | Cutting disc diameter                        | 355 mm                    |
| 9.11 | Cutting disc bore                            | 25.4 mm                   |
| 9.12 | Weight                                       | 15 Kg (± 5%)              |
| 9.13 | Rated input power                            | 2200 W                    |
| 9.14 | Depth of Cut                                 | 7 to 8 inch               |