

Technical Specification of Plasma Arc Cutting Machine kit with Multimedia Software & scope of supply

Scope of Supply:

The training equipment consists of:

1. Plasma arc cutting Machine-

Leading Technical Parameters:

1. Machine should be able to cut up to 8mm M.S.
 2. Min. cutting current at 35% duty cycle . 35A
 3. Min. cutting current at 100% duty cycle . 20 A
 4. Suitable for operation on 400 V+/- 10% AC, 50 Hz +/- 3% 3 phase
 5. Class of insulation for better
 6. Plasma torch current rating at 100% duty cycle . 40A.
- . Bilingual Multimedia Software

2. e-Learning Software for Plasma Arc Cutting Machine

Bilingual Multimedia Software as per following specifications:

The features of the multimedia software should be provided:

- a. An exhaustive content on the subject to be delivered. It has to be user friendly with an attractive GUI (Graphics User Interface).
- b. Literature with suitable diagrams, animation, audio and video clips taken of equipment used in the Indian Railways.
- c. The entire module should be divided into units and sub units.
- d. At the end of each module there must be evaluation test incorporated.
- e. Evaluation tests should be of various types like:
 - i. Fill in the Blanks Single Choice Question Multi choice questions / True or False
 - ii. Suitable feedback should be automated and informed to the user.
- f. Glossary consisting of technical nomenclature used in the software.
- g. Single button switch over between Hindi and English and regional language.
- h. Data sheets if applicable
- i. Capable of communication with a server based student management system through SCORM / AICC / IEEE communication standards.
- j. Capable of independent operation through compact disc.
- k. Book Marks for the user to add bookmarks for important pages in the software.

Bilingual Multimedia Software (English + Hindi) should consist of the following:

I. Introduction to Plasma Arc Cutting (825M1)

Introduction to GMAW, Gas Metal Arc Welding Equipment, selection of Gas and Electrodes, Welding application

II. Welding Fundamentals

Welding Power Source, Shielded Metal Arc Welding, Gas Metal Arc Welding, Flux Cored Arc Welding, Submerged Arc Welding, Gas Tungsten Arc Welding

III. Operation Of Arc Welding (Bilingual English + Hindi)

Setting up of Arc Welding Plant, Striking and Maintaining of Arc and Laying Short Length Beads, Straight Line Beading On M.S. Plate in Flat Position, Laying of Weaved Beads on M.S. Plate in Flat Position, Filet Weld in open corner joint on M.S. Plate in Flat Position, Filet Weld in Tee Joint on Mild Steel Plate (10mm) In Flat Position, Filet Weld in Lap Joint on Mild Steel Plate (10mm) in Flat Position, Butt Weld in open Square Butt Joint on M.S. Sheet (3.15mm) In Flat Position, Butt Weld In Single $\frac{1}{4}$ Butt Joint on Mild Steel Plate (10mm) in Flat Position, Straight Line Beading on M.S. Plate 10mm in Horizontal Position, Filet Weld in Tee Joint on M.S. Plate (10mm) in Horizontal Position.

IV. Safety Aspects In Welding (Bilingual English + Hindi)

Welding Safety, Oxy-acetylene welding safety, Welding safety when working with gases, Welding safety-electrical powered equipment.

V. Plasma Arc Cutting

Introduction to Plasma, Principle of the plasma arc cutting, Types of plasma cutting, Tips for good plasma cutting.

3. Concomitant/Standard Accessories:

1. Cutting torch with cable of length 5 mtrs- one
2. Air base with accessories . 15 mtrs. Approx.
3. Flexible cable for connecting power . 1 set in 5 mtrs. each
4. Standard set of maintenance tool . 1 set
5. Torch Guide Kit . 01 Set
6. Circle Cutting Attachment . 01 Nos.
7. Straight cutting guiding wheel attachment . 01 Nos.
8. Work Connecting Cable 7.5 Mts.
9. Torch Reel & spare kit holder - 01 Set
10. Straight Cutting Guide . 01 Nos.
11. Cathode and Electrode . 05 set/100 HRS
12. Nozzle Tip . 05 set/100 HRS
13. Nozzle Base . 03 Nos/100 HRS