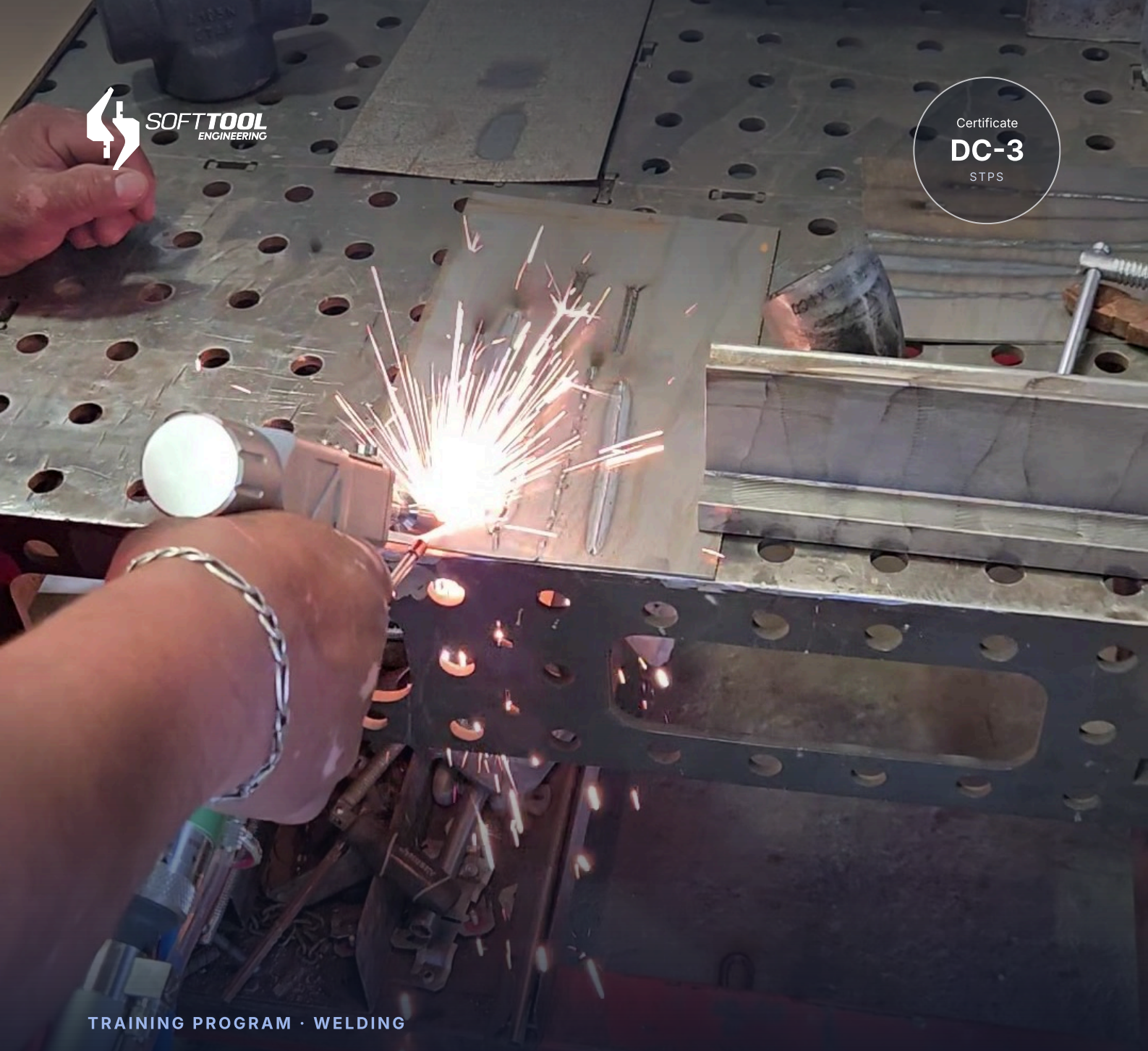


SOFTTOOL ENGINEERING

Certificate
DC-3
STPS

TRAINING PROGRAM · WELDING

Fiber laser welding

Welding, cleaning and cutting with handheld laser equipment

Principles, parameters and practice with a fiber laser welder: welding, seam cleaning, remote cleaning and cutting.

5	46	24 h	DC-3
modules	topics	duration	STPS certified

Soft Tool Engineering softooling.com info@softooling.com

WELDING

Faster, cleaner welds with minimal distortion



OBJECTIVE

Train personnel to safely operate a fiber laser welder: understand the process, select and adjust parameters, and master the welding, seam cleaning, remote cleaning and cutting modes.

Most of the course is practice on the equipment, with exercises on different materials.

ON COMPLETION, PARTICIPANTS WILL BE ABLE TO

- Explain the principles of laser welding, its advantages and applications.
- Recognize parameters, weldable materials, heat-affected zone and defects.
- Identify the parts of the equipment: source, head, wire feeder, controller and consumables.
- Prepare the head, load the filler material and adjust the wire feeder.
- Select and adjust parameters for welding, seam cleaning and cutting.
- Work with the proper laser safety equipment.

Course data sheet

DURATION
24 h

INTENDED FOR
Laser welders, technicians and operators

FORMAT
On site, at your plant and with your machinery

APPROACH
Applied theory and machine practice

GROUP
By role and level of experience

EVALUATION
Theoretical and practical, with results for each participant

CERTIFICATE
DC-3 certificate recognized by the STPS

EQUIPMENT
Handheld fiber laser welders

SYLLABUS

Course content

5 modules and 46 topics. The order and depth of each module are adjusted to the machinery and the group's level.

01 Laser principles

02 Laser welding fundamentals

03 Equipment and accessories

04 Laser welding techniques

05 Welding practice

01 Laser principles

- 1.1 History and evolution of the laser
- 1.2 Basic principles of laser welding
- 1.3 Advantages and disadvantages
- 1.4 Industrial applications

02 Laser welding fundamentals

- 2.1 Parameters applicable to welding
- 2.2 Weldable materials
- 2.3 Heat-affected zone (HAZ)
- 2.4 Common defects

03 Equipment and accessories

- 3.1 Laser source
- 3.2 Beam delivery system
- 3.3 Control system
- 3.4 Consumables
- 3.5 Safety equipment

04 Laser welding techniques

- 4.1 Conduction welding
- 4.2 Deep penetration welding
- 4.3 Hybrid welding
- 4.4 Welding special materials

05 Welding practice

- 5.1 Getting to know the equipment
  Wire feeder · Electrical cabinet · Laser source · Laser head · Consumables · Controller
- 5.2 Welding practice
  Loading filler material · Wire feed speed · Head preparation · Consumable check · Selecting weld mode · Parameter adjustment · Exercises on different materials
- 5.3 Seam cleaning
  Head preparation · Seam cleaning mode · Consumable check · Parameter adjustment · Exercises
- 5.4 Remote cleaning
  Head preparation · Remote cleaning mode · Consumable check · Parameter adjustment · Exercises
- 5.5 Cutting with the laser welder
  Head preparation · Cutting mode · Consumable check · Parameter adjustment · Exercises
- 5.6 Conclusions

METHODOLOGY

You learn by doing, not by watching slides

01
Assessment
We review your machinery, materials, parts and the group's level to adjust the program.

02
Applied theory
Fundamentals with examples from your own production.

03
Hands-on practice
Exercises on your equipment and with your parts, in small groups.

04
Evaluation
Theoretical and practical exam with results for each participant.

05
Certificate and report
DC-3 certificate and improvement recommendations for the area.



Training group receiving their certificates.



INSTRUCTORS

People who started on the shop floor

More than 20 years in sheet metal fabrication: cutting, punching, bending and welding at manufacturing companies. The Soft Tool Engineering team also authored technical books on cost engineering and flat pattern development that are used as support material.

Includes

- Program adjusted to your plant
- Course material for each participant
- Theoretical and practical evaluation
- DC-3 certificate (STPS)
- Results report and recommendations

SOFTTOOL ENGINEERING

TRAINING PROGRAM

Bring this course to your plant

Send us your machinery, the materials you process and the number of participants. We'll propose the program, duration and dates.

EMAIL

info@softooling.com

WEBSITE

softooling.com

OTHER COURSES

Sheet and tube laser cutting · Complete laser cutting process · Complete CNC punching process · CNC sheet metal bending processes · CNC Bending Application Engineer · Sheet metal flat pattern calculation · Blueprint reading · Expert programmer for cutting processes · Sheet metal process expert · Sheet metal cost engineering · Welding training · Laser Welding Application Engineer

Content can be adjusted to the machinery and the group's level. Images for reference only.