

## Module 1.

A course specifically designed for production operators and line inspection personnel. This module includes resistance welding principles & methods (basic), operator health & safety, electrode dressing, changing & cooling. Good workshop practices TPM for weld station, jigs & fixtures.

Welding coated & high strength steels, BS.EN.ISO standards, Inspection & testing resistance welds.  
Ref: EN ISO 145541-1 & 2:2000 Para 6.2 (5-6 hrs) up to 8 people. Cost £520.00 per course.

## Module 2.

A course designed for Technicians, Engineers & Quality personnel, production supervision would also benefit. This module includes resistance welding, principles, methods (technical level), standards & quality control. Health & safety TPM & PPM are also included. Coated & high strength steels, BS.EN.ISO standards, inspection and testing of resistance welds. Practical problems can be addressed whilst on site.

Ref: EN ISO 145541-1 & 2 Para 6.1 (7-8 hrs) up to 8 people. Cost £560.00 per course.

## Module 3.

A course designed for Technicians, Manufacturing, commissioning & prototype build engineers. This module covers resistance welding (as mod 2) at a technical level, machine set up and try out, standard & non-standard tooling. BS EN ISO standards. Equipment manufacturers & suppliers. Weld quality control, equipment maintenance, TPM/PPM, health & safety and product liability. This module does include some practical work. Ref: EN ISO 145541-1 & 2 Para 6.1 (two days). Up to 6 people. Demonstration machine must be available. Cost £880.00 per course.

## Module 4.

A course designed for personnel responsible for setting up and monitoring resistance welding plant & equipment on robotic, multi-weld & manual operations on a daily basis. Resistance welding and methods at a technical level, machine set up & try out, standard & non-standard tooling, BS.EN.ISO standards, TPM/PPM, health & safety, quality control, product liability. This module has a high level of practical content. Ref: EN ISO 145541-1 & 2 Para 6.3 (two days) up to 6 people, working in pairs, machine availability is critical. Cost £880.00 per course.

## Module 5.

Weld Engineering Consultancy. We are able to supply an engineer with a wealth of expertise in resistance welding processes within the automotive and sheet metal industries, who can give support for the following areas:- Manufacturing & Production Engineering, quality & conformance engineering, maintenance engineering.

### Normative references:-

EN ISO 14554-1:2001 Quality requirements for welding-  
Resistance welding of metallic materials-  
Part 1: Comprehensive quality requirements.  
Part 2: Elementary quality requirements.

Note: - All modules can be tailored to suit the client's standards, processes & procedures.  
Modules 2 to 4 include course notes.

All modules require an overhead projector, screen (but can be supplied if required)

