SMALL BORE TUBING INTEGRITY COURSE

USING TWIN FERRULE COMPRESSION FITTINGS

COURSE OVERVIEW
ABOUT THE COURSE
This is a one day course covering the various theoretical, practical and safety elements involved in the manufacture of Small Bore Tubing Assemblies using twin ferrule compression fittings. This course includes the benefits of Small Bore Tube Assemblies, tube preparation, bending, assembly, installation runs, producing to drawings and thread identification.

WHY SHOULD YOU ATTEND THE COURSE
By completing this comprehensive BFPA Small Bore Tubing Integrity Course, candidates will be able to demonstrate that they have gained the appropriate skills, knowledge and ability when working with Twin Ferrule Compression Fittings and Tube Line Fabrication.

CHAPTER ONE
TWIN FERRULE COMPRESSION FITTINGS
- correct tightening, including the use of gap gauges
- pre-swaging
- disassembly and reassembly
- common installation problems
- visual identification of metric and imperial fittings
- recommendations for clamping of small bore tube
- tube fitting identification marks
- twin ferrule fitting sealing areas
- different profiles of the ferrules used by different manufacturers
- installation procedures for port connectors
- assembly procedures for plugs and caps
- assembly procedures for tube insert and plastic tubing

CHAPTER TWO
TUBE VERSUS PIPE
- definition of tube and pipe
- the advantages of tubing over pipe
- bending quality tube and the use of less fittings
- tube selection
- tube hardness
- surface condition
- gas services
- good and bad tube storage
- tube materials, wall thickness and typical working pressures
- temperature reduction factors

CHAPTER THREE
TUBE PREPARATION
- correct handling of tube
- common tools and how they should be used in the preparation of tube
CHAPTER FOUR

TUBE BENDING PRINCIPLES

- main parts of a tube bender
- spring back during the bending process
- defective bends
- recommended free tubing length
- tube gain
- tube line fabrication
- basis for measurement when producing a bend
- managing the change to the plane of bending
- marking the tube
- positioning the tube
- producing an offset bend

CHAPTER FIVE

PLANNING THE ROUTE

- good and bad practice for tube runs
- working to a sample drawing considering tube gain and offset bend allowance in order to calculate the correct length

CHAPTER SIX

ASSOCIATED THREADS

- understand how to correctly identify an end termination by following 8 steps
- use a range of measuring instruments and gauges in conjunction with tabulated data to positively identify a range of end terminations
- understand the main characteristics and geometry of the male and female along with how it seals for the following end terminations: BSP port/stud, BSPT, JIC, Metric port/stud, NPT and SAE port/stud
- understand how to correctly tighten adjustable (positional) elbows
This course has been developed to provide an introduction into hydraulic hose, connectors and the safe assembly of these components for industry use. The course is classroom based, during the day the attendee will gain a knowledge and understanding of safe hose assembly and if applied will only enhance the safety within the hydraulic industry and the attendee.

The skills course will take the candidate through the many techniques and considerations essential for the safe production of a quality hose assembly and ultimately leading to installation. This two day course involves both the theoretical and practical elements in working with hose and connectors. During the 2 days the attendees will be trained and assessed to an industry level of ability in working with hose and connectors.

The key themes covered during the one-day course include: hose life expectancy; risk analysis; competence by way of a robust competence assurance system; identify, inspect & record; hose register – recording of a hose assembly prior to it going into service; and visual hose assembly (installation) inspection check list. The attendees will be assessed during the day with the appropriate level of pass certification being awarded, e.g. distinction, merit, or pass.

COURSE BOOKINGS CAN BE MADE BY TELEPHONE, EMAIL, FAX OR BY USING OUR THE ON-LINE BOOKING COURSE ENQUIRY FORM

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