



## Part 2 Class- Pipe Joining

**Training**- 4 Day Session.....\$800/Person  
**Testing** (48 Hours after Training)- 1 Day Session.....\$200/Person

NOTE: Failed Hands-On Evaluations will be charged a retesting fee of \$110/Student, and must be done by a NGA evaluator (Minimum time is 48 Hours after a failed evaluation)

### Classroom Training:

- Class Overview
- Safety/PPE

### Covers Tasks:

- 31- Installation of Pipe
  - A-Storage and Handling
  - B-Installation of Pipe in a Ditch
  - C-Installation of Pipe- Directional Drilling
  - D-Installation of Pipe- Horizontal Boring
  - E-Installation of Pipe- Dead Insertion
- 40- Install/Replace Tracer Wire
- 49-Mechanical Joining of Pipe other than Plastic
  - Threaded/Flange/Compression
- 50- Joining of Plastic Pipe
  - Manual Butt Fusion
  - Hydraulic Butt Fusion
  - Saddle Electofusion
  - Coupling Electofusion
  - Compression
  - Nut Follower
  - Bolted
  - Stab
- 51- Install a Self Tapping Tee
- 52- Inspection of Pipe Fusion Joint
  - Socket Fusion
  - Saddle Fusion
- 71- Operating in the vicinity of a Pipeline
- National Fuel Procedure Manual Sections Referring to Material Listed Above.



### Hands-On Training:

- Plastic Pipe (Print Line/Weak Links/Static Discharge)
- Tracer Wire ( Connection/Line Markers)
- Pipe Joining ( All Types- Using NFG Equipment)
- Tapping Tees ( Steel/Plastic)

### Testing:

- NGA-WE-31A-Installation of Pipe
- NGA-WE-31B-Installation of Pipe in a Ditch
- NGA-WE-31C- Installation of Pipe by Directional Drilling
- NGA-WE-31D- Installation of Pipe by Horizontal Boring
- NGA-WE-31E- Installation of Pipe by Dead Insertion
- NGA-WE-40-Install/Replace Tracer Wire
- NGA-WE-49-Mechanical Joining of Pipe other than Plastic
- NGA-WE-51-Install a Self-Tapping Tee
- NGA-WE-71-Excavation and Backfill
- NGA-WE-State Specific NY/PA
- NGA-WE-A-General Knowledge
- NGA-WE-B-Mechanical Couplings
- NGA-WE-C-Electrofusion
- NGA-WE-D- Hydraulic Butt Fusion
- NGA-WE-E-Manual Butt Fusion
- NFG-Task 800- Part 2 O&M Procedures
- HANDS-ON-Manual Butt Fusion-PJQ-01B
- HANDS-ON-Hydraulic Butt Fusion-PJQ-11
- HANDS-ON-Electro-Saddle-PJQ-04
- HANDS-ON-Electro-Coupling-PJQ-05
- HANDS-ON-Bolted-PJQ-06
- HANDS-ON-Stab-PJQ-07
- HANDS-ON-Compression-PJQ-08
- HANDS-ON-Nut Follower-PJQ-09
- HANDS-ON-Compression-49.3



**Below is the Covered Tasks Listing the Domains and Elements that will be covered during Training Class.**

**TASK #31: Installation of Pipe**

1. Transportation, Storage, and Handling of Pipe
  - a. Understand pipe storage requirements
  - b. Know how to move pipe without damaging it
2. Inspection of Pipe
  - b. Knowledge of pipe inspection practices
  - c. Know how to verify the correct pipe material
  - d. AOC - Know how to respond to a damaged pipe
3. Pipe Depth
  - a. Knowledge of the proper pipe depth requirements
  - b. AOC – Know how to respond to insufficient pipe depth
4. Utility Separation
  - a. Knowledge of separation requirements from other utilities and structures
  - b. AOC - Know how to respond to insufficient utility clearance
5. Pipe Locating Material Installation
  - a. Knowledge of the materials used to assist with pipe locating and the installation process
  - b. AOC - Know how to respond to tracer wire failure
6. Documentation
  - a. Knowledge of the documentation requirements



- b. AOC - Know how to respond to an undocumented or improperly documented existing pipeline facility
- 7. Post-Installation Markings
  - a. Knowledge of the locating and marking requirements
- 8. Weak Links
  - a. Knowledge of weak link methods
  - b. AOC - Know how to respond to weak link breaks
- 9. Installing Pipe in an Open Trench
  - a. Know how to properly prepare a trench
  - b. Know how to minimize plastic pipe stresses
  - c. Knowledge of pipe lowering practices
  - d. AOC - Know how to respond to rocks in a trench
- 10. Installing Pipe by Horizontal Directional Drill
  - a. Knowledge of reaming and pull back process
  - b. Knowledge of acceptable bend radius and factors affecting bend radius
  - c. Know when and in what situations to inspect
  - d. AOC - Know how to respond to unanticipated pipe resistance
  - e. AOC - Know how to respond to an improper bend radius
  - f. AOC - Know how to respond to an improper reamer size
- 11. Installing Pipe by Horizontal Boring (Piercing Tools)
  - a. Knowledge of pipe and piercing tool selection
  - b. Knowledge of the boring process
- 12. Installing Pipe by Vibratory Plow (Planting and Plow)
  - a. Knowledge of blade tool, pipe selection and length of pipe
  - b. Knowledge of plowing process
- 13. Installing Pipe by Insertion
  - a. Know how to protect pipe during insertion process
  - b. Knowledge of the insertion process

#### TASK #40: Installing/Replacing Tracer Wire

- 1. Pipe Locating Material Installation
  - a. Knowledge of the materials used to assist with pipe locating and the installation process
  - b. AOC - Know how to respond to tracer wire failure



### **TASK #49: Mechanical Joining of Pipe Other Than Plastic**

1. Pipe Preparation
  - a. Know how to prepare pipe for fitting installation
1. Compression Fitting
  - a. Knowledge of fitting types
  - b. Knowledge of fitting installation
  - c. Demonstrate fitting installation process
2. Flange Fitting
  - a. Knowledge of fitting types
  - b. Knowledge of fitting installation
3. Threaded Fitting
  - a. Knowledge of fitting types
  - b. Knowledge of fitting installation
4. Abnormal Operating Conditions
  - a. Know how to recognize and respond to a failed soap or leak test

### **TASK #50: Joining Plastic Pipe**

1. Static Electricity on Plastic Pipe
  - a. Knowledge of the causes of static electricity on plastic pipe
  - b. Knowledge of the hazards of static electricity and related safety procedures
  - c. Know how to eliminate static electricity on plastic pipe
2. Fundamentals of Butt Fusion
  - a. Knowledge of job set-up and pipe preparation for butt fusion
  - b. Know how to visually inspect a butt fusion joint
3. Manual Butt Fusion
  - a. Knowledge of the manual butt fusion process
  - b. Demonstrate manual butt fusion process
4. Hydraulic Butt Fusion
  - a. Knowledge of the Hydraulic Butt Fusion Process
  - b. Demonstrate Hydraulic Butt Fusion Process
5. Socket Fusion
  - a. Knowledge of the Pipe Preparation Process
  - b. Knowledge of the Socket Fusion Process



- b. Know what to Visually Inspect for on a Socket Fusion Joint
- c. Demonstrate Socket Fusion Process
  
- 5. Saddle Fusion
  - a. Knowledge of the Pipe Preparation Process
  - b. Knowledge of the Saddle Fusion Process
  - c. Know how to Visually Inspect a Saddle Fusion Joint
  - d. Demonstrate Saddle Fusion Process
  
- 6. Electrofusion
  - a. Knowledge of the Pipe Preparation Process
  - b. Knowledge of the Electrofusion Process
  - c. Know what to Visually Inspect an Electrofusion Joint
  - d. Demonstrate Electrofusion Coupling Process
  - e. Demonstrate Electrofusion Tee Process
  
- 7. Mechanical Joining of Plastic Pipe
  - a. Knowledge of the Pipe Preparation Process
  - b. Knowledge of Mechanical Fittings Installation Process
  - c. Demonstrate Installation of a Stab Fitting
  - d. Demonstrate Installation of a Compression Fitting
  - e. Demonstrate Installation of a Bolted Fitting
  
- 8. Abnormal Operating Conditions
  - a. Know how to recognize and respond to material defects
  - b. Know how to recognize and respond to equipment malfunctions
  - c. Know how to recognize and respond to improper fusions

### **TASK #51: Install Tapping Tee on Pipe**

- 1. General Knowledge of Self-Tapping Tees
  - a. Knowledge of the fittings used for tapping
  - b. Know how to inspect, install, and test self-tapping tees
  - c. Know how to respond to a pressure test failure
  
- 2. Tapping Using Plastic Self-Tapping Tees
  - a. Knowledge of the tapping process using self-tapping plastic tees
  - b. Know how to ensure serviceability of plastic tees before installation
  - c. Demonstrate the tapping process using a self-tapping tee
  
- 3. Tapping Using Steel Self-Tapping Tees
  - a. Knowledge of the tapping process using self-tapping steel tees
  - b. Demonstrate the tapping process using a self-tapping tee



**TASK #52: Inspect Plastic Pipe Joint**

- a. Socket/Saddle Heat Fusion