



Part 2 Class- Plastic Pipe Joining

NY

Training- 5 Day Session..... (Hands-On 20 Hours) 40 Hours

Testing (48 Hours after Training)- 1 Day Session..... 8 Hours

PA

Training- 4 Day Session..... (Hands-On 16 Hours) 32 Hours

Testing (12 Hours after Training)- 1 Day Session..... 8 Hours

NOTE: NY will qualify in the **NFG HYB** series and PA will qualify in the **NFGPA** series. NFG Trainer will discuss the specifics/differences of each series during class.

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
- 49-Mechanical Joining of Pipe other than Plastic
 - Threaded/Flange/Compression
- 50- Joining of Plastic Pipe
 - Manual Butt Fusion
 - Hydraulic Butt Fusion Including Datalogger
 - Saddle Electrofusion
 - Coupling Electrofusion
 - Compression
 - Nut Follower
 - Bolted
 - Stab
- 51D – Tapping Using Plastic and Steel Self Tapping Tees
- 52- Inspection of Vintage Pipe Joints
 - Socket and Socket Fusion
 - Butt and Electrofusion

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:

- Written Test (WE) - 31A-Installation of Pipe
- WE - 31B-Installation of Pipe in a Ditch
- WE - 31C- Installation of Pipe by Directional Drilling
- WE - 31D- Installation of Pipe by Horizontal Boring
- WE - 31E- Installation of Pipe by Dead Insertion
- WE - 49-Mechanical Joining of Pipe other than Plastic
- WE - 51D- Tapping Using Plastic and Steel Self Tapping Tees
- WE - A-General Knowledge
- WE - B-Mechanical Couplings
- WE - C-Electrofusion
- WE - D- Hydraulic Butt Fusion
- WE - E-Manual Butt Fusion
- WE-52-Inspection of Vintage Pipe Joints
- WE-Datalogger
- WE-802- Part 2 – Operating & Maintenance Procedures
- Performance Evaluation (PE) -Manual Butt Fusion-PJQ-01B
- PE-Hydraulic Butt Fusion-PJQ-11
- PE-Electro-Saddle-PJQ-04
- PE-Electro-Coupling-PJQ-05
- PE-Bolted-PJQ-06
- PE-Stab-PJQ-07
- PE-Compression-PJQ-08
- PE-Nut Follower-PJQ-09
- PE-Compression-49.3
- PE-Tapping Using Plastic and Steel Self Tapping Tees-51D.1/51D.2

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

COVERED 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



COVERED TASK #31: Installation of Pipe (CON'T.)

2. Inspection of Pipe
 - a. Knowledge of pipe inspection practices
 - b. Know how to verify the correct pipe material
 - c. 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
 - a. AOC - Know how to respond to an improper bend radius
 - b. AOC - Know how to respond to an improper reamer size



COVERED TASK #31: Installation of Pipe (CON'T.)

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 Insertion
 - a. Know how to protect pipe during insertion process
 - b. Knowledge of the insertion process

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

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

COVERED 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
 - c. Know what to Visually Inspect for on a Socket Fusion Joint

6. 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

7. 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

8. 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

9. 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

COVERED TASK #51D: Tapping Using Plastic and Steel Self Tapping Tees

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

COVERED TASK #52: Inspection of Vintage Pipe Joints

1. Butt Fusion
 - a. Know how to visually inspect a butt fusion joint
 - b. Know how to respond when an unacceptable butt fusion joint is identified
2. Electrofusion
 - a. Know how to visually inspect an electrofusion joint
 - b. Know how to respond when an unacceptable electrofusion joint is identified
3. Saddle/Side Wall Fusion
 - a. Know how to visually inspect a saddle fusion joint
 - b. Know how to respond when an unacceptable saddle fusion joint is identified
4. Socket Fusion
 - a. Know how to visually inspect a socket fusion joint
 - b. Know how to respond when an unacceptable socket fusion joint is identified

DATALOGGER

1. Set up
 - a. Ability to enter correct information pertinent to current PPI TR-33 standard
2. Operation
 - a. Skill required to complete an acceptable fusion
3. Analysis
 - a. Knowledge to determine based on graphed results if fusion made is acceptable or unacceptable per appropriate procedures and standards

