



# Nupi Americas SMARTFLEX Quick Installation Guide

August 2023 Version 2





The Following Instructions Are For A General Reference Only. This Guide Is Not A Replacement For The Proper Nupi Smartflex Installer Certification Process. Please Contact Your Local Nupi Representative For Information On How To Become A Nupi Smartflex Certified Installer.





#### **BEFORE YOU BEGIN – Pre-Installation Requirements**

Important: This Is All Required Prior To Arrival Of Nupi Trainers For Installation Trainings And Certifications.

# **Actions Required Prior To Pipe Installation/Training Can Occur:**

- Jobsite Trenching Complete & Lined With Backfill
- STRAIGHTEN ANY AND ALL COIL PIPE ON SITE (At Least 48 Hours Prior to Pipe Installation)
- **Dispenser and Tank Sumps Set**
- STP Motor Installed And Ready To Be Piped
- Dispenser Sumps Must be Anchored Down

Nupi Tools Needed: Welder + Pipe Pliers + Cutter + Revolving Scraper + Manual Scraper

Other Misc. Tools: Mobile Generator + 2 Pipe Vises + Cloths + Acetone or 99% Rubbing Alcohol









#### **BEFORE YOU BEGIN – Pre-Installation Requirements**

*Important:* This Is All Required <u>Prior To Arrival</u> Of Nupi Trainers For Installation Trainings And Certifications.

#### SUMPS MUST BE PROPERLY ANCHORED

All Non-rigid Pipe Is Subject To Thermal Contraction Prior To Backfill. Shifting Sumps Can Be Easily Prevented With Adequate Sump Anchoring. Nupi Recommends Utilizing 1 ½" X 1 ½" Angle Iron Or Larger To Brace Sumps. This Prevents Sump Shifting Due To Changing Weather Conditions And Saves Time For The Contractor As Sumps Require Being Set, Aligned, And Levelled One Time.











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These Items Are Listed In The Recommended Order For Performing Site Work

•	Pre-Installation Requirements	Page	3-4
•	Installing FRP Entry Fittings	Page	6
•	Installing HDPE Entry Fittings	.Page	7
•	Installing Sticks Between Dispensers	.Page	8-13
•	Installing Double-Wall Fittings	.Page	14-16
•	STP/Transition Sump Method #1	.Page	17-19
•	STP/Transition Sump Method #2	.Page	20-23
•	Using SmartFlex Electrofusion Welder	.Page	24-25
•	Air Testing	.Page	26-27
•	Final Notes	.Page	28

#### Quick Installation Guide – FRP Entry Fittings

# **Installation of FRP Sump Entries**





• Drill Hole With Proper Hole Saw (Verify Correct Diameter Before Proceeding)



- Sand And Clean The Entire FRP Mating Surface Using Acetone Before Installation, Inside And Outside Of The FRP Sump
- Use Of FRP Dispensing Gun (19SACB021) Recommended For Applying Petroseal





Note: Do Not Epoxy Threads

- Unscrew Fitting Backing Plate And Coat Fitting & Backing Plate Surface In Nupi Petroseal (19SACB021)
  - Do **NOT** Use Third-party Epoxy For Fitting Installation
- Install Fitting On Sump And Tighten Threaded Backing Plate
- Coat Internal And External Plate And Surrounding Sump Area With Additional Petroseal



Manually Scrape Entire Entry Spigot



#### Quick Installation Guide – HDPE Entry Fittings

# **Installation of HDPE Sump Entries**





Drill Hole With Proper Hole Saw (Verify Correct Diameter Before Proceeding)



*Important:* Do <u>NOT</u> Rotate Drill. Keep Drill Straight For Drilling HDPE Sumps. Rotating May Lead to Compromised Fitment.

- Install Fitting On Sump And Tighten Threaded Backing Ring (If Backing Ring Cannot Tighten, Installing And Manually Holding The Fitting Against The HDPE Sumps For Several Minutes Is Advised)
- Weld Using The Barcode Behind The Fitting Spigot



Manually Scrape Entire Entry Spigot



### How To Install Sticks Between Dispenser Sumps





*Important Tip:* The Measurement Should Allow Slight Pipe Slack. This Piping System Is Not Intended To Be Perfectly Straight Due To Thermal Contraction. Sticks Are Strongly Recommended Versus Coils Between Dispensers.

#### How to Install Sticks Between Dispenser Sumps



 Before Starting: Remove Termination Fittings (19SETFCV) Knock-Out With Primary Pipe & A Rubber Mallet (DO NOT DO THIS FOR STP TERMINATION FITTINGS YET)





- Measure Between Each Dispenser "Face To Face" Of Elbow And/Or Tee
- Add 5" To This Length For Stick Pipe Measurement
- Place A Stick Of Pipe Across (2) Vises And Make One End Of Pipe Have Primary And Secondary Flush After Removing Tape And Cap



Install Pliers To Keep Primary From Sliding Out Of Flush Position With Secondary



# How to Install Sticks Between Dispenser Sumps

- Measure Out From The "Flush" End And Mark The Pipe On The Measurement Found In Step 2 (Fitting Face To Fitting Face +5")
- Cut Both The Primary And Secondary On This Mark (Nupi 19SCUT Is Recommended)



• Now, Mark 14" Back From The End Of The Pipe And Use Pipe Cutter To Cut 14" Off Of Secondary Only From The End Of Pipe (Creating 7" Setback On Each Side Later)





#### How to Install Sticks Between Dispenser Sumps



 Use Rotary Scraper (19CAM2) Or Turbo Scraper To Scrape 7" Off Of Green Primary Liner Now Exposed



Important: Ensure 100% Of The Green Liner Is Removed From The Primary. If Any White Residue Or Green Liner Remains After Rotary Scraping, Remove With Manual Scraper.

During This Process, Another Crew Member Should Scrape The Secondary Pipe 15" Back On The Opposite End With The Manual Scraper



• Ensure Entire Secondary Is Scraper Thoroughly To Allow Easy Fitment Of Entry Fitting Reducer In Later Steps

# How to Install Sticks Between Dispenser Sumps



- Remove Pliers
- Now Repeat This Process On Opposite Ends Push Primary Out 14" Of Opposite End To Scrape Primary Of Other Side And Scrape Un-scraped Secondary On The Other End
- Remove Pliers
- Now Center The Pipe, Exposing Primary 7" On Each End
- Re-install Pliers
- Clean All Pipe & Fittings W- Acetone & Lint Free Rags THOROUGHLY
- Dry Fit Termination (19SETFCV), And Primary Tee Or 90 (19STE, 19SGE) Make Lines With White Marker.





• Install Entry Reducers On Each End Of Pipe And Move Pipe Into Ditch. Ensure Pliers Stay Installed For Entire Dry Fitting Process.



# How to Install Sticks Between Dispenser Sumps

- Dry Fit In Sump Until Lines Match Up To Marks Created On Vise
- Weld
- Mark Time & Weld #
- Allow 20 Minute Cool Time Before Moving Pipe







# Quick Installation Guide – Double-Wall Fittings

# How to Install Double-Wall Fittings





*Important Tip:* Ensure DW Fitting Use Is Necessary For Each Use. Many Installers New To The SmartFlex System Under-Estimate The Flexibility Of The Pipe.



#### Quick Installation Guide – Double-Wall Fittings

# How to Install Double-Wall Fittings

• Remove Reducers And Manually Scrape Area Shown Below



- Cut 3" Of Secondary Pipe To Expose 3" Of Primary
- Scrape Green Liner From Primary 3" Using CAM2
- Clean Pipe & Fitting THOROUGHLY With Acetone
- Mark Primary Pipe At 2"



- Insert Primary Into DW Fitting With Reducer Fitting Slid Back On Secondary At Least 5" For Clean Line Of Sight
- Confirm The Primary Is Bottomed-out In DW Fitting With Rubber Mallet & Visual Inspection Of 2" Mark





# Quick Installation Guide – Double-Wall Fittings

# How to Install Double-Wall Fittings

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- Weld The Primary & Allow 20 Minute Cooling Time
- (Optional) Conduct Complete Primary Air Test Before Continuing With Installation Of Secondary Reducers

To Seal The Secondary:

• Install Secondary Reducer Until Seated Entirely On DW Fitting, Aligning The Cutout With The Weld Port.



- Weld The Secondary
- Mark Time & Weld Number

#### **Piping Nupi Into STP & Transition Sumps**



Method #1 – <u>Recommended If Space Allows</u> Primary Passes Through Termination Fitting & Coupler Is Used For NPT Or Flange



#### **Piping Nupi Into STP & Transition Sumps**

# Method #1 – Recommended If Space Allows

Before Starting: Remove Termination Fittings (19SETFCV) Knock-out With Primary Pipe & A Rubber Mallet





- Cut 7" Of Secondary Pipe To Expose 7" Of Primary
- Scrape Green Liner From Primary 7" Using CAM2



- Install Pliers To Keep Alignment And Push Into STP
- Clean Pipe & Fittings THOROUGHLY With Acetone
- Install Termination Fitting (19SETFCV), Then SW Coupler, And Finally The NPT Adapter



#### **Piping Nupi Into STP & Transition Sumps**

# Method #1 – Recommended If Space Allows

- Strike Fittings With Rubber Mallet To Ensure Proper Fit & Make Lines With Marker To Track Proper Fitment For Welding Process
- Weld
- Mark Time & Weld Number



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# **Piping Nupi Into STP & Transition Sumps**



Primary Passes Stops Within Termination Fitting & NPT Or Flange Adapter Installs In Other Side





# Piping Nupi Into STP & Transition Sumps



# Method #2

- Cut 1 3/4" Of Secondary Pipe To Expose 1 3/4" Of Primary
- Scrape Green Liner From Primary 1 3/4" Using CAM2
- Install Pliers To Keep Alignment And Push Into STP
- Clean Pipe & Fittings THOROUGHLY With Acetone
- Install Termination Fitting With Knockout <u>NOT</u> Removed



 Important: Look Inside And Visually Confirm The Primary Is Bottomed-out On Termination Fitting Square Knock-out





# Piping Nupi Into STP & Transition Sumps



#### Method #2

- Weld The Termination Fitting On The Secondary Side (Larger Side) And Wait For 20 Minute Cooling Time Before Continuing
- Insert NPT Adapter Into Primary Side (ENSURE Male NPT Is Bottomed-Out With Rubber Mallet
- Weld Primary Side Of Termination Fitting
- Mark Time & Weld Number





Note: The NPT Spigot Can Be Cut In Cases Of Very Tight Space Constraints. This Can Create Added Difficulty In Verifying Primary Insertion In The Termination Fitting And Is A Last Resort And Requires Great Care.





### Quick Installation Guide – Welding

# How to Use Nupi SmartFlex Electrofusion Welder

• Flip Power Switch On And Press "Enter" Until Welder Says "Scan Barcode"



Scan Barcode And Press Enter Until Weld Process Begins







# How to Use Nupi SmartFlex Electrofusion Welder

• Once Weld Completes, Record Time And Weld Number On The Pipe.



*Important Tip: <u>DO NOT</u> Move Pipe Until Cooling Time Is Completed. This Information Is Listed As "C.T. Xmin" On The Barcode (Usually 20 Minutes).* 





#### Quick Installation Guide – Air Testing

#### How to Air Test Nupi SmartFlex - Primary



 Primary Testing Is Similar To Industry Standards, Usually Performed At Shear Valves. Although The Nupi Smartflex Primary Can Be Tested At 100+ PSI, Most Are Performed At 60 PSI To Be Consistent With PEI Standards And Common AHJ Requirements.



Important Tip: <u>DO NOT</u> Air Test Until Cooling Time Is Completed For All Welds. This Information Is Listed As "C.T. (X)min" On The Fitting Barcode (Usually 20 Minutes).

#### How to Air Test Nupi SmartFlex - Secondary

Cut ¼" Tubing Pieces From Coil To Create And Install Jumper Tubes In All Continuous Test Runs. Testing Is Most Commonly Executed By Isolating Each Product Line Individually.



**16ft ¼" Coil** Part # - 19STT605 **82ft ¼" Coil** Part # - 19STT625



### How to Air Test Nupi SmartFlex - Secondary

• Use ¼" Plugs For All Termination Ports That Do Not Require A Jumper Tube.



¼" Plug Part # - 19STVP6

 Install Nupi Test Port Adapter Tube Into Test Port And Use The Threaded End To Install Onto Contractor Provided Test Rig. Although Nupi Is Capable Of Much Higher Pressures, 6 To 10 PSI Is Most Common Per PEI Standards And AHJ Requirements.



**¼" Test Port Adapter** Part # - 19SPTM14 (Sold As A Pack Of 5)





Quick Installation Guide – Closing Notes

# Closing Notes: SCRAPE IT, CLEAN IT, MARK IT



As With Any Product, Nupi Smartflex Is Only As Good As The Install. It Is Critical That All The Outline Steps Are Followed And Understood Thoroughly. Any Shortcuts In Marking The Pipe Or Verifying The Pipe Is Properly Inserted To Hit These Lines Will In Most Cases Result In Immediate Failure. Properly Cleaning The Pipe With Approved Cleaners And Rags To Remove ALL Debris And Dirt, And Ensuring The Green Liner Is Thoroughly Removed From All Primary Lines Being Inserted Into The Fitting Is Crucial For A Successful Installation And Experience. We Stand By Our Product As The Best In The Industry, But Also Require Care During The Install To Ensure These Measures Are Followed To Avoid Any Issues.

If You Have Any Questions Or Concerns, Please Reach Out To Your Local Nupi Representative.

**Thank You For Choosing Nupi!**