



Check List for SMARTFLEX installations

Please tick the appropriate box and answer the questions where required

A. PRE-INSTALLATION CHECKLIST

1. Have the pipes and fittings been stored on site in accordance with the manufacturer's instructions?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
2. Has an inventory of materials been undertaken to confirm that pipes and fittings are enough to complete the installation?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
3. Were the pipe (coils & straight lengths) and fittings inspected for physical damage, end caps intact on pipes, fittings properly packaged, and the presence of UL/ULc labels (if required)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
4. Have the pipe system installers been trained by a qualified SMARTFLEX instructor?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
5. Do all installers have in their possession their valid SMARTCARD ?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
6. Do the pipe installers have all the necessary tools and equipment available on site to start and complete the installation? <ul style="list-style-type: none"> • Multifunction welding unit • All user manuals available • Pressure test unit – model SENS010 (if required) • Pipe scraper - models RAT1A-RATOR25125-RATURBO50-RATURBO63 • Pipe cutter – model SCUT125 • White marker – model MARK • Primer / Solvent / Cleaner – model LID1 • Cleaning paper • Pliers for double wall pipe – model SPLIDW and protection sleeves – model STP • Pipe aligner – model ALL225/4 - required only for relieving stress on pipes and fittings during the welding process 	YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/> YES <input type="checkbox"/>	NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/> NO <input type="checkbox"/>
7. Have all entry boots been properly installed (correctly tightened & sealed)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
8. Have all piping trenches been excavated to proper depth, width and slope as per the manufacturer's recommendations?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
9. Was there a minimum of 6" (150mm) of approved bedding material (backfill) in all piping trenches – prior to the installation? a. cleaned washed sand b. pea gravel – 1/8" to 3/4" c. crushed rock – 1/8" to 1/2"	YES <input type="checkbox"/>	NO <input type="checkbox"/>



B. CHECKS DURING THE INSTALLATION

1. Is the entry angle of the pipes inside the entry boots within the misalignment range or tolerance allowed specified by the manufacturer of the entry boots?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
2. Have all entry boots been correctly tightened?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
3. Is the pipe bending radius within the manufacturer's specifications? (minimum bending radius = 18 times the pipe OD)	YES <input type="checkbox"/>	NO <input type="checkbox"/>
4. Have the pipes been scraped and cleaned appropriately?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
5. Has the pipe insertion length been properly marked?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
6. Have <u>all</u> pipes and fittings (welded) been aligned with a maximum allowed misalignment of 10°-15° or according to the oil company specifications?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
7. Did any problem occur during the welding cycle (for example, temporary loss of tension, welding cycle interrupted or failed)? If so, please specify the type of problem: _____	YES <input type="checkbox"/>	NO <input type="checkbox"/>
8. Have ALL the steps of the SMARTFLEX installation procedure been duly followed?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
9. Are you sure that ALL welds have been completed?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
10. Did you write the progressive number and OK on each weld?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

C. INSPECTION AND TESTING

1. Have the pipes and fittings been inspected as for the following requirements?: a. correct separation between parallel pipes? b. correct separation between pipes crossing over each other? c. recommended cooling time allowed prior to pressure testing?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
2. During pressure testing of the primary and/or secondary piping system, were any leak or failure encountered? If so, please give details about the type of leak or failure encountered and the repair procedure undertaken: _____ _____	YES <input type="checkbox"/>	NO <input type="checkbox"/>



D. CHECKS AFTER THE INSTALLATION

1. Was the sand bed properly made?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
2. Is the scraping of pipes and fittings clearly visible?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
3. Which detergent has been used to clean the pipes and fittings prior to welding? Please indicate the type/brand as declared by the installer		
4. Was the marking of the insertion lengths visible and close to the fitting rim?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
5. Was the marking of the insertion lengths visible and far from the fitting rim? If the answer is yes, then the insertion length might be incorrect.	YES <input type="checkbox"/>	NO <input type="checkbox"/>
6. Were the welded fittings duly aligned without any evident misalignment?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
7. Was there any sign or crack on the piping surface?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
8. Was the piping system pressure tested as per the SMARTFLEX Technical Manual? * primary pipe test pressure: 6 bars or 87 psi for 2 hours * secondary pipe test pressure: 4 bars or 58 psi for 2 hours	YES <input type="checkbox"/> YES <input type="checkbox"/>	NO <input type="checkbox"/> NO <input type="checkbox"/>
9. Was the pressure test recorded using the SMARTFLEX pressure test unit - Model SENS010?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
10. Has the welding report for the installed piping system(s) been downloaded and copies provided to the customer and to NUPI Industrie Italiane?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
11. Did the installed piping system(s) require any Leak Detection Test? * type of LDT test performed: _____ _____ * results of LDT test performed: _____ _____	YES <input type="checkbox"/>	NO <input type="checkbox"/>

General Comments:

DATE _____

SIGNATURE _____

ROLE _____