STYRENE PARK OFFSITE

Document Title:

N2 Filling Procedure

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Rev.	**Issued Date**	**DESCRIPTION**	**PREPARED**	**CHECKED**	**APPROVED**

REVISION RECORD SHEET

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Please note that one pressure gauge on shell and one pressure gauge on tube side for each chiller shall be supplied and delivered along with exchanger

1. Scope

This procedure covers requirements of N2 purging for internal preservation of equipment during transportation and long-term preservation, which will be applied for **heat exchangers of Toase-ehe Park Sanati Gohar Ofogh Petrochemical company.**

This procedure describes general rules and conditions to purge N2 gas into the equipment internal surfaces for preventing internal metal surfaces from oxidizing and efficiently prevent equipment from rusting during transportation and long storage periods before start-up.

2. N2- Purge & Equipment

After completing the fabrication process and before dispatching the equipment at Site, all C.S. equipment internal volume shall be filled with nitrogen gas as described below and suitably packed based on project packing specifications.

2.1- When the hydrostatic test has been successfully conducted, all equipment shall be drained, dried, and cleaned. Afterward, all openings shall be closed with suitable blinds and gaskets, so that the N2 gas that fills the equipment internally cannot escape from any unwanted orifice.

2.2- Before Nitrogen filling equipment inside will be visually checked for any residue dirt, oil residue, metal chips or other forms of contamination, residue water or any contamination, derbies, oil, and grease shall be cleaned and remained water shall be dried with compressed air.

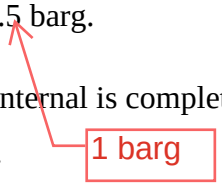
2.3. - After all necessary instruments have been checked, the nitrogen gas shall be inserted through one of the bottom nozzles already prepared, the remaining nozzles shall be air tightened except the one upper which will act as the air drainage nozzle.

2.4- While nitrogen gas is being inserted into the equipment, the remaining air content within the equipment will forcefully be exhausted through the designated drainage nozzle , so, gradually all the air exist within the equipment will be evacuated, to assure a complete air evacuation is to simply release the internal gas from vent hole and light a match in front of the escaping gas, if the light goes off, then no air is trapped inside the equipment, therefore, what is coming out is pure Nitrogen.

2.5- After all the above procedure is fulfilled, the air drainage nozzle shall be fully tightened to avoid any un-wanted leakage.

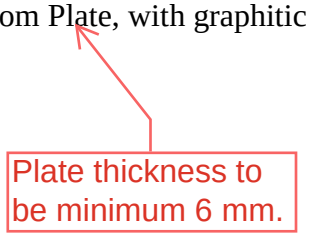
2.6- After one of the pressure gauges is mounted, fill-in the equipment with cleaned N2-gas the way that filled gas pressure raises to about 0.5 barg.

2.7- After making sure that equipment internal is completely with N2 gas, feeding entrance shall be tightened and pack as it was mentioned.



2.8- As the Nitrogen is normally kept in pressured liquid form in portable capsules, special precautions shall be considered to prevent freezing, especially in small diameter branch connections while filling. Visual inspection shall conduct after N2 purge.

2.9- Afterward the equipment is ready for transport to the site. For Sealing of all flanges, FPA will use Blinds which will be extracted from Plate, with graphitic gaskets and suitable temporary bolt and nuts.



	N2 PURGING REPORT	**REPORT NO.:** **FPA-QC-NITRO-001**	
		Date:	
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ITEM NUMBER:		
INITIAL PURGING PRESSURE:		
FINAL PURGING PRESSURE :		
PROCEDURE APPLIED:		
GAS PURITY:	**GAS TEMP. (C°)**	
INITIAL HOLDING TIME:	**FINAL HOLDING TIME:**	**EXTERNAL TEMP.(C°):** **Ambient Temp.**
GAUGES EMPLOYED RANGE:	**INITIAL GAUGE PRESSURE:**	**FINAL GAUGE PRESSURE:**
CALIBRATION FORM NO.:	**THERMOMETER:**	
RESULT : **ACCEPTED** √	**NOT ACCEPTED** ☐	

REMARK :

FPA QC.	OWNER	TPI
NAME:	**NAME:**	**NAME:**
DATE:	**DATE:**	**DATE:**
SIGN.	**SIGN.**	**SIGN.**