



Toase-ehe Park Sanati Gohar Ofogh  
Petrochemical Co.  
**CONCEPTUAL, BASIC and DETAIL DESIGN  
ENGINEERING OF STYRENE PARK OFFSITE**



Document Title: N2 Filling Procedure

Document No.: EI027-FPA-VD-QC-PRO-010

Rev. R1

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## **STYRENE PARK OFFSITE**

### **Document Title: N2 Filling Procedure**

R1	02-11-2024	IFA	F.Baviye	N.Abnavi	N.Abnavi
R0	05-10-2024	IFA	F.Baviye	N.Abnavi	N.Abnavi
<b>Rev.</b>	<b>Issued Date</b>	<b>DESCRIPTION</b>	<b>PREPARED</b>	<b>CHECKED</b>	<b>APPROVED</b>



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**REVISION RECORD SHEET**

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2	X	X						42							
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## 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 **Toase-eh Park Sanati Gohar Ofogh Petrochemical company heat exchangers**.

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

## 2. N2- Purge & Equipment





After the completion of fabrication process and before dispatching the equipment at site, all C.S. equipment internal volume shall be filled by nitrogen gas as it is described below and suitably packed based on project packing specification.

2.1- When the hydrostatic test has been successfully conducted, all equipment shall be drained, dried and cleaned. Afterwards all openings shall be closed with suitable blinds and gaskets, so that the N2-gas which fills the equipment internal not able to escape from any un-wanted 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 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.

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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 1 barg.

*Note: One pressure gauge on shell and one pressure gauge on tube side for each chiller shall be supplied and delivered along with the exchanger.*

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 (Plate thickness to be a minimum of 6 mm), 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.