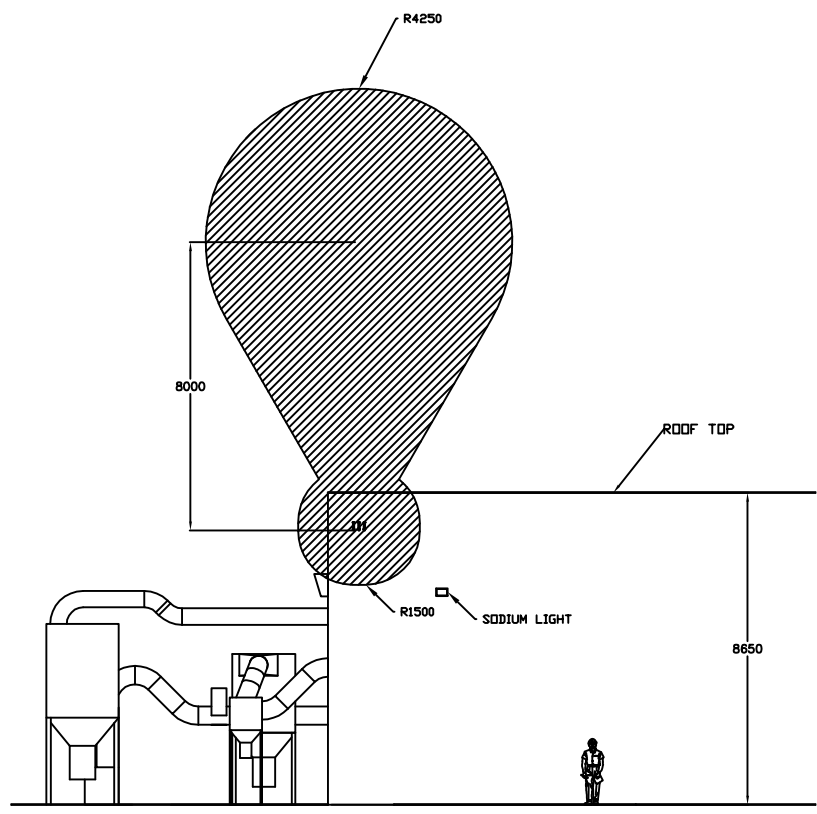
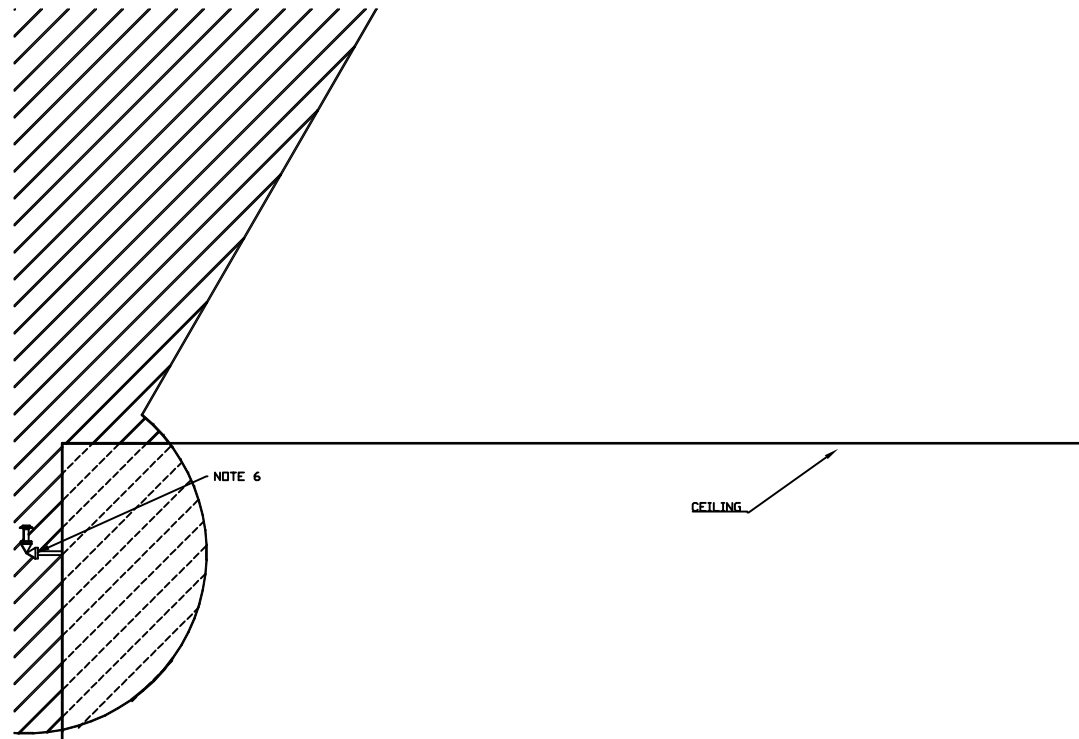
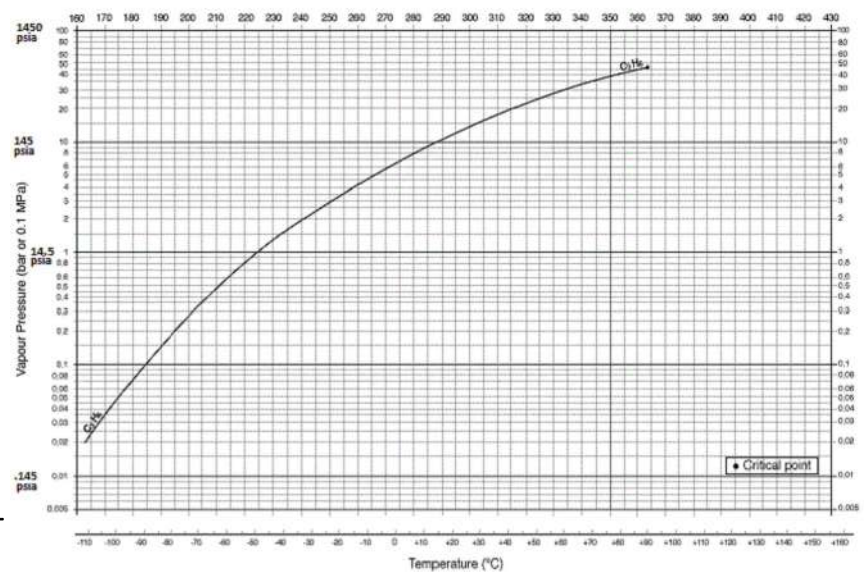
 CLASS 1, ZONE 2, GROUP IIB

NOTES

- BUILDING**
Ensure PRV penetration through building is vapor tight. Roxtec pipe seals are recommended.
Building walls to be vapor tight to prevent propylene gas entering or exiting building through wall.
- GENERAL**
Zones which may contain propylene gas are classified as Class 1 Zone 2, Gas Group IIB, Temperature Code T2.
PRIOR TO DISCONNECTING TANKS, PURGE THE VAPORIZER, WHICH FORCES LIQUID FEED BACK INTO TANK USING VAPOR PRESSURE GENERATED FROM VAPORIZER.
Check threaded valve couplings using snoop and/or electronic gas sensing equipment each time connections are made.
Check valve packings using snoop and / or electronic gas sensing equipment weekly, or when connections are made. (i.e. changing tanks).
Isolate tanks prior to moving, which includes purging, and testing for LEL using electronic gas sensing equipment.
Hoses with screwed connections that have been tested for leaks are not classified.
Spray booth is not classified, but is assumed to be power ventilated when in use, fittings being bled, coupled or uncoupled.
- PROPERTIES OF PROPYLENE**
CAS No. 115-07-1
Alternate Names Propene, Allylene, Methylene
Physical State Gas or Liquid Under Pressure
Color Colorless
Odour Gassy / Aromatic
Odour Detection 270-600 ppm
Recognition 418 ppm
Molecular Formula C₃H₆
Molecular Weight 42.08
Critical Pressure 667.2 psia
Flash Point -162°F (-108°C)
Extent of Zone Determined by probability of release and presence of air.
LEL %Vol @77°F, 1 atm 2.00%
UFL %Vol @77°F, 1 atm 11.00%
Zone System Gas Group IIB
Zone System Temperature Group T2
Zone System Class 1
Auto ignition Temperature 851°F (455°C)
Vapor Pressure @65.93°F 144.1 psia
Critical Temperature 197.2°F (91.8°C)
Normal Boiling Point at 1 ATM. -53.8°F (-47.7°C)
Melting Point -301.5°F (-185.3°C)
Gas Density (Air = 1) 1.46
- PROPYLENE TANKS**
Tanks are Worthington 420 lb capacity, liquid feed, equipped with 1" diameter 435 psi Pressure Safety Valve.
PRIOR TO DISCONNECTING TANKS, PURGE THE VAPORIZER, WHICH FORCES LIQUID FEED BACK INTO TANK USING VAPOR PRESSURE GENERATED FROM VAPORIZER.
Each tank PSV is to be piped to outdoor location on building as specified on this drawing.
- VAPOR EXPANDER**
ALWAYS PURGE THE VAPORIZER PRIOR TO DISCONNECTING THE LIQUID FEED LINES FROM EITHER TANK OR VAPORIZER.
DO NOT VENT LIQUID INTO INDOOR SPACES.
PREFERRABLY DO NOT VENT GAS INTO INDOOR SPACES.
Purging the Vaporizer
a Close the valve at the outlet of the vaporizer.
b If the vaporizer is not operating, start the vaporizer.
c Allow at most 5 minutes for vaporizer to heat up and push most of the remaining liquid back into the tank. You should hear the contactor cycle off.
d DO NOT EXCEED 5 MINUTES HEATING TIME, WHICH MAY CAUSE EXCESSIVE PRESSURE IN TANKS.
e Close the tank liquid outlet valve.
f Open the vaporizer outlet valve and allow attached equipment to consume remaining gas in the line.
g Gas can be vented through gun, into spray booth PROVIDED ventilation is running to evacuate fumes.
Vapor expander is to be connected using Zone 2 electrical connection hardware.
Vapor expander is not be serviced while in use.
Do not open vapor expander electrical compartment during operation.
Check for combustible gases using electronic hand held detection system, prior to servicing.
Area classification is not suitable for the optional "Heavy Ends Drain Kit". Refer to Section 5, page 5-20 for details. A Zone extension to 7.5 meters radius would be necessary.
250 psi PRV on vaporizer to be piped to outdoor location on building as specified on this drawing. Refer to section 3-13 which states: If the vaporizer is to be installed within an enclosure or building, VENT THE SAFETY RELIEF VALVE OUTSIDE THE ENCLOSURE AND REDIRECT THE DISCHARGE UPWARD. A pipe-away adapter must be used at the relief valve. Always install a rain cap or similar device to prevent water and other debris from entering the relief discharge. If water enters, it may freeze and prevent the relief valve from proper discharge, creating a potentially hazardous situation.
- PRESSURE RELIEF VALVES**
Install pipe away adapter pn 1501-5016 as shown in Torrex operation and maintenance manual PN 52368 on page 1-4.
Install rain caps on upward facing pressure relief valves.
- VALVE CABINET**
Valve cabinet is classified as Zone 2 inside the valve box. The box has an open bottom that prevents gas from accumulating.
Space below valve cabinet is classified as Zone 2.
- ALL DIMENSIONS IN MILLIMETERS (mm).**



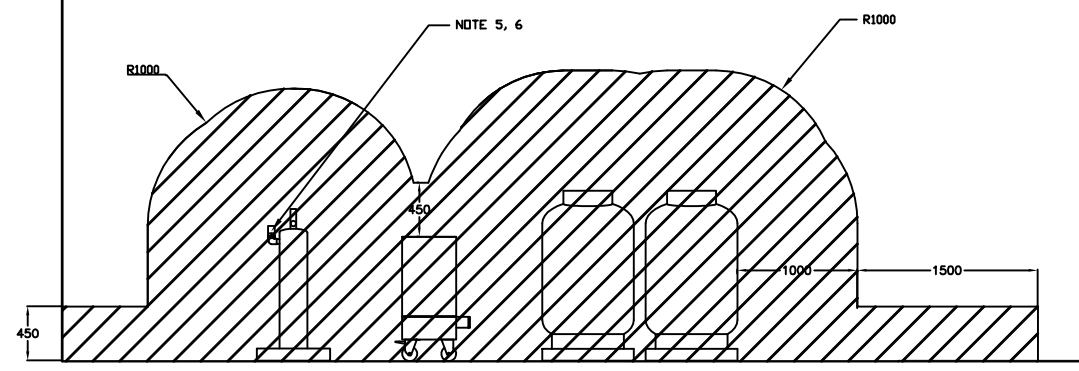
SECTION B-B
1:100



NOTE 6

CEILING

NOTE 1



SECTION A-A
1:30

USER :
DATE :
FILE INFO :
TIME :
PLOT SCALE :

| AREA CLASS | PROPYLENE TANKS SITE PLAN AREA CLASSIFICATION (INSIDE VIEW) | No. | DESCRIPTION | DATE | BY |
|--------------|--|-----|-------------|----------|----|
| AREA CLASS 2 | PROPYLENE TANKS SITE PLAN AREA CLASSIFICATION (INSIDE VIEW) | | | | |
| AREA CLASS 1 | PROPYLENE TANKS SITE PLAN AREA CLASSIFICATION (OUTSIDE VIEW) | 0 | FOR WEBSITE | 08/10/18 | DG |
| DRAWING No. | DRAWING TITLE | No. | DESCRIPTION | DATE | BY |
| | REFERENCE DRAWING | | REVISION | | |

| | | | | | | |
|---------------|--------------------|---|-----------------|----------------|--|-----------------------------------|
| PERMIT STAMP: | ENGINEERING STAMP: | CLIENT: | SCALE: NONE | DATE: 08/10/18 | LOCATION: --- | SITE: --- |
| | | | DRAWN BY: DG | | PROJECT NAME: SAMPLE AREA CLASSIFICATION | |
| | | | DESIGNED BY: DG | | DRAWING TITLE: SAMPLE CLIENT PROPYLENE TANKS AREA CLASSIFICATION DETAILS | |
| | | CONSULTANT: CLASS 1 ZONE 2 ENGINEERING INC. AREA CLASSIFICATION EXPERTS | APPROVED BY: DG | DATE: 08/10/18 | PROJECT No. SAMPLE | DRAWING No. AREA CLASSIFICATION 3 |
| | | | | | SHEET NO. 3 | OF SHEET 3 |
| | | | | | REV. 0 | |