

QUESTIONS AND ANSWERS FOR:

RFB # 13-32, 09-24-13

RFB for two (2) 55,000 gallon shop fabricated horizontal LNG storage tanks

Question: What is the maximum working pressure required for the 55,000 gallon storage units.

Answer: Please see 'Specification for Shop Fabricated LNG Storage Tank', Page 3, section 2.3 - Tank Specifications for Maximum Allowable Working Pressure.

3.0	Maximum Allowable Working Pressure	100 psig
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Question: Have piping requirements been identified, or will our quote be for tanks with our base schematic with capped inlet and outlet connections?

Answer: Please see 'Specification for Shop Fabricated LNG Storage Tank', Page 4-5, section 2.5.2 -Piping and Tubing, and Drawings GRN-0056-D5 and GRN-0056-L3 for piping requirements.

2.5.2 Piping and Tubing

All piping and tubing shall conform to NFPA 59A and ASME/ANSI B31.3. All piping shall be seamless ASTM A312 Grade TP304L and all tubing shall be seamless ASTM A269 Grade TP304L. Piping and tubing shall be formed from continuous lengths of pipe or tubing to the maximum extent practicable. All piping joints that are used shall be welded. Piping more than 2 inches nominal diameter must be joined by butt welding, but piping 2 inches nominal diameter and under may be joined by socket weld fittings. All butt weld fittings shall be ASTM A403 Grade WP304L and all socket weld fittings shall be ASTM A182 Grade F304L. Interface connections between Vendor's and Purchaser's piping shall be made with ANSI Class 300 raised face flanges. All flanges shall be ASTM A182 F304L. All flanged connections shall include spring washers. Piping 2 inches nominal diameter and over shall be schedule 10 as a minimum. Piping under 2 inches nominal diameter shall be schedule 40 as a minimum. Tube fittings, if required, shall only be used external to the LNG storage tank. All tube fittings shall be stainless steel; Swagelok or Engineer approved equal.

Tank Nozzles/Connections

Size	Description
2" NPS	Bottom Fill
2" NPS	Vent/Safety Relief
2" NPS	Top Fill
1/4" NPS	Top Gauge (low pressure)
1/4" NPS	Bottom Gauge (high pressure)
1" NPS	Pressure Build Liquid
1/4" NPS	Full Trycock
3" NPS	Liquid Withdrawal
2" NPS	Pressure Build Vapor
5/8" NPS	Vacuum Gauge
3" NPS	Vacuum Evacuation (2) (including suitable perlite filter)