

## RECOMMENDED SPECIFICATIONS FOR AREO-POWER FG2 STORAGE TANKS

### A. General

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1. The above-ground storage tank system shall be as manufactured by Areo-Power Unitized Fueler, Inc., and as shown on tank construction drawing number APB830.
2. The unit shall consist of a 12,000 gal. thermally insulated Fireguard™ type II double wall steel above-ground horizontal cylindrical storage tank mounted on saddles within a containment dike providing secondary containment of at least 110% of primary tank capacity.
3. The tank shall be a UL2085 listed by Underwriters Laboratories, Inc. (UL) and labeled with the UL *"Insulated Secondary Containment Aboveground Tank for Flammable Liquids"* label.

### B. Materials

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1. The tank, dike and all steel appurtenances shall be fabricated from commercial or structural grade carbon steel. Only new materials shall be used.
2. All carbon steel shall comply with the latest edition of the Specification for Structural Steel, ASTM A36; or the Specification for Steel, Carbon (0.15 Maximum, Percent), Hot Rolled Sheet and Strip, Commercial Quality, ASTM A569.
3. Insulating material shall be lightweight and porous to allow for leak migration to a leak monitoring point. The insulation material shall be as specified by the Steel Tank Institutes Standard for Fireguard™ Tanks and shall have an R factor of 2.1.

### C. Size and Dimensions

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1. The primary tank shall be 8'0" diameter by 32'0" long. The shell steel thickness shall be 1/4" and tank heads shall be 1/4". The outer shell of the double wall tank shall be 12" larger in diameter and length, giving a 6" annular space for lightweight insulation material.
2. The containment dike shall be 10'10" wide by 46'6" long by 4'0" high. The containment dike steel thickness shall be 1/4".

### D. Primary Tank Fittings

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1. All fittings will be sized and located as indicated on tank construction drawing number APB830.
2. All fittings shall be protected with plastic thread protectors to prevent damage to threads and minimize foreign matter from entering the tank during shipping.

### E. Assembly and Appurtenances

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1. The double wall tank shall be furnished with 3" high saddle supports.
2. The containment dike shall be furnished with support dunnage to allow for visual inspection of containment dike bottom. The size and location of supports shall be as

indicated on tank construction drawing number APB830.

3. The unit will be provided with a drip pan type pump platform of the size and location indicated on drawing number APB830.
4. The unit shall be provided with removable 12 ga. (min) steel rainshields designed to minimize water and debris from entering the diked area. The rainshield design will allow for easy visual interior dike inspection while allowing the dike area to be naturally ventilated to avoid possible vapor collection.
5. The lightweight insulation material shall not be exposed to weathering and shall be completely protected from damage between the two steel walls of the double wall tank.
6. The primary tank shall be provided with a fill containment sump designed to contain spills of up to 3 gal.(approximately) in a tank top reservoir while a 1" sch 40 overflow pipe diverts spills in excess of 3 gal in to the containment dike.
7. The inner and outer tank shall be furnished with a 8" emergency vent designed to relieve internal tank pressure in excess of 0.5 psig. The emergency vent shall have a 419,261 cubic feet per hour (cfh) rating at 2.5 psig.
8. The tank assembly shall be provide with an emergency vent protection hood designed to prevent snow, ice and debris from rendering the emergency vent ineffective while allowing the vent to operate as intended. The hood shall provide a cross sectional venting area of 160 square inches.
9. An emergency vent diverter shall be provided such that under emergency conditions the first 9 gallons (approximately) of product emitted from the emergency vent will be contained in a tank top reservoir using a weir plate. Emissions in excess of 9 gallons shall be directed to the containment dike via a chute of rectangular cross section having an area of 48 square inches.
10. The containment dike shall be provided with a sump and 3/4" sch 40 drawoff pipe to allow liquid to be pumped out of the dike.
11. The unit will be provided with stairs, landing and handrails designed in accordance with OSHA requirements. The top of the staircase shall attach to the front head of the tank to allow easy tank top filling. The stair frame and handrails shall be fabricated from carbon steel. Stair treads and fill platforms shall be constructed of slip resistant grating.
12. The tank and dike shall be provided with separate lifting lugs such that the primary tank and dike may be lifted separately.

#### **F. Exterior Coating for Steel Parts**

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1. All exterior steel surfaces (including the interior of the containment dike) shall be factory grit blasted to the Steel Structures Paint Councils Surface Preparation Specification No. 7 (SSPC-SP7) and coated with the manufactures standard white finish (epoxy, polyurethane, enamel at manufacturers option).

#### **G. Factory Testing Requirements**

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1. The tank shall be factory tested in accordance with the requirements of UL2085.