

August 6, 2014

## Product Announcement– Roth DWT Release for DEF Storage and Dispensing

Roth Industries, Inc. is pleased to announce the release of the DWT double wall tank product as approved for storage and dispensing of Diesel Emissions Fluid, or DEF.

### What is DEF?

Diesel emissions fluid is comprised of 32.5% high purity urea and 67.5% deionized water.

### Where and how is DEF used?

In January of 2010, the US EPA enacted emissions standards for medium and heavy-duty vehicles to reduce diesel engine emissions, particularly NOx and particulates. Manufacturers are using SCR (Selective Catalytic Reduction) added to the vehicle exhaust system treating engine exhaust gasses to meet these standards. As DEF is dosed into the SCR system at small flow rates, it decomposes to form ammonia and CO<sub>2</sub>. The ammonia reacts within the SCR catalyst to convert NOx to nitrogen and water. All SCR equipped diesel powered vehicles are equipped with a tank to carry DEF to supply this process. Moving forward, all diesel powered vehicles including light trucks and passenger cars will likely include SCR systems.

### Where does the Roth DWT fit into the DEF market?

All diesel fueling stations, truck stops and service centers that sell diesel fuel are being required to dispense DEF along with the fuel, requiring on site storage facilities for the DEF. The rate of consumption of DEF is approximately 50:1 diesel fuel to DEF. The storage containers employed to date include drums, totes, IBCs and smaller containers. These containers range from stationary refillable, returnable/refillable and disposable.

### Roth DWT Advantages-

- HDPE has been identified as a preferred material for tank construction for DEF storage, transport and handling making the Roth DWT an ideal choice for storage and dispensing.
- DEF storage requirements include maintaining temperatures in a range from above freezing to 80F (26.6 C), and protecting the fluid from exposure to UV radiation (sunlight). The Roth DWT double-wall construction with the metallic outer tank provides an ideal package offering both secondary containment and complete protection of the fluid from UV exposure.

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## Where does the Roth DWT fit into the DEF market?

- Product Purity- Storage and handling of DEF require that fluid purity be maintained. Contamination can adversely effect performance of the SCR system. Initially, the Roth DWT will be available with metallic and non-metallic NPT adapters to interface with filling/pumping equipment and accessories supplied by others. Roth Industries, Inc. is investigating closed system accessories (combined fill and vent) to adapt directly to the DWT to offer enhanced product purity protection and ease of use.

## FAQ's

### *Are DEF tanks installed indoors or outdoors?*

Due to DEF storage temperature limits, most storage tank installations will be indoors to protect the fluid from temperature extremes.

### *Will the Roth DWT tank be able to be used in a "returnable/refillable" container mode?*

No, the Roth DWT product is designed and intended to be a stationary storage tank only, refilled from a bulk delivery truck.

### *We understand that DEF can be corrosive to metallic surfaces, is the exterior metallic tank associated with the Roth DWT susceptible to corrosion damage?*

Exposure testing has been conducted to evaluate the effect of incidental contact of DEF on the metallic outer tank. Test results indicate no significant corrosion damage based on incidental contact (splash/drip) and reasonable housekeeping and spill cleanup procedures being followed.

### *Are there special siting requirements for the Roth DWT?*

No, basic requirements for level, supportive surfaces for siting the tank as outlined in the installation instructions are all that is required.

### *What Roth DWT sizes are available?*

The Roth DWT is available in 110, 165, 275 and 400 gallon capacities.

**Please feel free to contact the Roth Technical Department with any questions.**

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