

Komatsu

Does Cold Temperature Really Affect a Propane Tank Level Gauge?

Like nearly all other types of materials, propane is affected by cold temperatures. As the temperature goes down, the propane gas contracts. That reduced level of gas inside the tank is reflected by the gauge which reflects the level on the tank. Normally, this comes into play whenever a homeowner checks the gauge during cold weather conditions and sees the amount of the tank level before and after delivery. Depending on the conditions, the tank level might not go up as much as expected.

Propane Tank Level Gauge

The gauge on a propane tank shows you what portion of the tank is full. Typically, tanks are not filled more than 80% in order to allow the gas to expand on warm days. For instance, a 500 gallon tank, at a reading of 80% at normal temperatures reflects roughly 400 gallons of propane in the tank. This is around the amount which can be stored.

Normal Temperatures

The website Propane 101, that is operated by the propane industry, considers an exterior temperature of 60 degrees to be the baseline or reference point. For example, if the gauge reads 50% of capacity on a day when the temperature is close to 60 degrees, then a 500 gallon tank will contain approximately 250 gallons of propane. If the temperature that same day is a lot lower than 60 degrees, the gauge will read lower. Similarly, if the temperature is a lot higher than 60 degrees, the gauge will actually read higher because the gas expanded.

Effect of Contraction and Expansion

The amount of energy contained or energy contained in a tank will not change as the gas either contracts or expands, according to the propane industry web site. The amount of propane itself has not changed, but just the density of the gas has changed.

Cold-Weather Delivery

If a homeowner orders 100 gallons of propane to be delivered, they will receive 424 lbs. of propane. If the homeowner has a 1000 gallon propane tank, they may expect the gauge to go up by 10% with the delivery of 100 gallons. These numbers would be correct if the temperatures were close to 60 degrees at the time of delivery. If the delivery happened during colder weather conditions, these chillier temperatures will cause a smaller increase reading on the propane gauge.