

Monday, October 9, 2017

# Specifications for Thermometers, Gauges, and Test Plugs

Monday Morning Minutes | by Norm Hall, October 9, 2017

This week's R L Deppmann Monday Morning Minutes wraps up the series on gauges and thermometers with a short review of pressure/temperature test ports and by suggesting a specification for all.

## Pressure and Temperature Test Plugs

Pressure and temperature test plugs were introduced over 40 years ago by Peterson Engineering Company and are commonly known as Pete's Plugs. R.L. Deppmann distributes the genuine Pete's Plugs.

There are many versions of these products on the market. The one differentiator for Pete's is the dual core design. Pressure and temperature (P&T) test plugs have a neoprene or nordel elastomer core. A 1/8" diameter gauge adapter or



**Product:** #100  
**Core:** Neoprene  
**Thread:** 1/4" NPT  
**Length:** 1 1/2"



**Product:** #110  
**Core:** Nordel  
**Thread:** 1/4" NPT  
**Length:** 1 1/2"



**Product:** #100XL  
**Core:** Neoprene  
**Thread:** 1/4" NPT  
**Length:** 3"



**Product:** #110XL  
**Core:** Nordel  
**Thread:** 1/4" NPT  
**Length:** 3"



**Product:** #300  
**Core:** Neoprene  
**Thread:** 3/8" NPT  
**Length:** 1 1/2"



**Product:** #310  
**Core:** Nordel  
**Thread:** 3/8" NPT  
**Length:** 1 1/2"

pocket thermometer is pushed into the plug for a quick reading. When you pull the adapter out, the core seals behind it. *Dual core plugs or Pete's Plugs seal faster than others.*

BUT....Pete's is the only brand I am aware of with a dual core so if you specify it, Peterson Engineering is the only name. Short of that, stick with a single core product.

## Neoprene or Nordel, or Do You Care!



**Product: #1500**  
Pressure & Temperature Test Kit  
0-100psi

**Included in Kit:**

- Pressure Gauge
- Thermometer #601
- Thermometer #603
- #500 - 2 Quantity
- Test Kit Case



**Product: #1500XL**  
Pressure & Temperature Test Kit  
0-100psi for XL Pete's Plugs®

**Included in Kit:**

- Pressure Gauge
- Thermometer #601
- Thermometer #603
- #500XL - 1 Quantity
- Test Kit Case

In the world of HVAC hydronics we tend to use the two elastomers interchangeably but there is a difference. P&T plugs with a core of neoprene has a temperature rating of 200°F and Nordel has a rating of 275°F. Since the low pressure boiler code sets the maximum temperature at 250°F, Nordel gets the nod in heating. The bigger issue is the compatibility with propylene glycol. Neoprene may have a shorter life when exposed to propylene glycol. No engineer is going to spend much time on a plug that costs less than \$10.00 so the specification I provide includes both. If you like “belts and suspenders”, just specify the

Nordel core. By the way, I've been in the industry for decades but have never worn a set of suspenders, just to set the record straight.

When insulation gets thick, these plugs can get lost and the owner may not even know they are there. I recommend extension nipples or extended length plugs when insulation is greater than 1". I also included an inexpensive meter kit in the specs to be turned over to the owner.

## **Recommended Specifications**

R.L. Deppmann created a specification for pressure gauges, thermometers, and P&T plugs based on the explanation given in this series of the R.L. Deppmann Monday Morning Minutes. I included Miljoco and Pete's Plugs by brand name. You may add other names if you must. There is nothing proprietary except the dual core on the P&T plugs. Take a moment and update your specifications to insure you are protected.