

U.S. Fire Administration / National Fire Academy

*Coffee Break Training***Topic: Tank Pressure Testing**

Learning objective: The student shall be able to recite tank tightness testing requirements for various flammable and combustible liquid tank configurations.

Before being authorized for service, flammable and combustible liquid storage tanks should be pressure-tested to verify they have not been damaged during construction, shipment, or installation. In secondary containment vessels, the annular space between the inner tank and outer wall should be pressure-tested **or** vacuum-tested.

The following table provides the typical test pressures based on tank configuration.

WARNING: Air pressure should never be used to test tanks that contain flammable or combustible liquids or vapors.

Flammable and Combustible Liquid Tank Pressure or Vacuum Tests						
	Hydrostatic or Pneumatic				Vacuum	
	Psig		kPa		in. Hg	kPa
Aboveground Tanks	Min	Max	Min	Max		
Horizontal shop-fabricated	3	5	20	35		
Vertical shop-fabricated	1.5	2.5	10	17		
Horizontal secondary containment-type (inner tank)	3	5	20	35		
Interstitial space (annulus)	3	5	20	35	5.3	18
Vertical secondary containment-type (inner tank)	1.5	2.5	10	17		
Interstitial spaces (annulus)	1.5	2.5	10	17	5.3	18
Underground Tanks						
Single-wall tanks and piping	3	5	20	35		
Secondary containment (inner tank)	3	5	20	35		
Interstitial space (annulus)	3	5	20	35	5.3	18

In the event of a conflict between these values and the manufacturer's recommendations, the tanks always should be tested in accordance with the tank's listing or manufacturer's instructions.

The pressure or vacuum should be maintained for at least 1 hour or for the duration specified in the tank's listing procedures. The tester should be careful that the interstitial space (annulus) is not overpressured or subjected to excessive vacuum.

For additional information, refer to NFPA 1, *Uniform Fire Code*[™], Chapter 66; *International Fire Code*[®], Chapter 34; or NFPA 30, *Flammable and Combustible Liquids Code*[®], Chapter 4.

