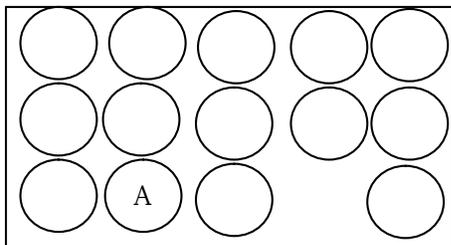


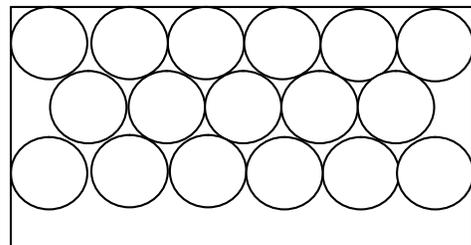
U.S. Fire Administration / National Fire Academy

*Coffee Break Training***Topic: Compressed Gas Cylinder Nesting**

Learning objective: The student shall be able to explain “nesting” as it pertains to compressed gas cylinder storage at container filling or service facilities.



Cylinders Aligned, but not Nested



Nested Cylinders

Plan View

Compressed gas cylinders must be stored in a stable way. Every inspector has seen one or more compressed gas cylinders chained or otherwise secured to a fixed point. However, when compressed gas cylinders are stored or handled at container filling or service facilities, the continuous handling makes the process of chaining the cylinders inconvenient and time-consuming for the employees. In those environments, the codes allow cylinders to be “nested.”

Nesting is a method of securing cylinders in a tight mass using a contiguous three-point contact system where all cylinders in the group have at least three points of contact with other cylinders, walls, or bracing.

In the left diagram, the cylinders are not nested. If cylinder “A” is removed, the adjacent cylinders would have only one or two points of stabilizing contact.

In the right diagram, the cylinders are nested. If cylinder “B” is removed, the remaining cylinders have three contact points and are considered to be more stable in this configuration.

For additional information, refer to NFPA 1, *Uniform Fire Code*[®], Chapter 3; *International Fire Code*[®], Chapter 30; or NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*.