

## **Alert 14-14: Stacking Drums Filled with Flammable Liquids**

Questions often arise concerning the safe storage of flammable and combustible liquids in steel drums and other types of packaging. In 1998, the Industrial Steel Drums Institute (ISDI) conducted a series of fire tests at the Southwest Research Institute to study the performance of steel drums with plastic fittings under extreme fire conditions. The tests confirmed that as the plastic fittings melted, the containers vented, which dissipated heat and pressure that might otherwise have been a threat to first responders. Meanwhile, the steel drums retained their structural integrity under extreme heat, making packaging failure unlikely and ensuring that flammable and combustible liquids are controlled.

As a direct result of this testing, the National Fire Protection Association (NFPA) revised NFPA 30, a code that relates to the storage of flammable and combustible liquids. This change allowed the doubling of vertical storage of flammable and combustible liquid in warehouses, permitting flammable and combustible products packaged in steel drums and sealed with approved plastic fittings to be stacked four high on wooden pallets in facilities that have foam and water fire suppression systems. In effect, this code change doubles storage space without increasing the warehouse footprint, while still safely managing the fire hazards associated with storing hazardous material.

As with other NFPA codes and standards, NFPA 30 has no legal standing of its own. However, it is often incorporated by state, county and municipal officials into local fire codes and ordinances, and is frequently the guiding standard in determining how flammable and combustible liquids may be stored in warehouses and other industrial sites in your community.

Users of steel drums can take advantage of the benefits of NFPA 30. Contact the facilities management personnel where you store flammable and combustible liquids, and ask if NFPA 30 revisions have been incorporated into local fire codes. If so, ensure that the storage facility is upholding the standard. In cases where NFPA 30 standards have not been adopted, local fire codes and standards may fall within the purview of the municipal, county or state government. In these cases, the facilities manager may be able to guide you on the local codes for storage of flammable and combustible liquids.

NFPA is an international nonprofit organization whose mission is to reduce the worldwide burden of fire and other hazards on quality of life. The organization serves as the world's leading advocate of fire prevention.

For additional information regarding NFPA and NFPA 30, [click here](#). To watch videos about the 1998 fire testing, visit ISDI on YouTube at <http://www.youtube.com/WhySteelDrums>.

Issued 01/14

The information above is intended to provide interpretative and authoritative information as a service to our members and has been offered in good faith based on the information provided to us. We do not guarantee the accuracy or completeness of any such interpretation or information.

