

Howard Talks Tech

Non-Sparking Tools

How many of you work at a facility that requires "spark proof" tools in hazardous locations? Is this done as a "Best Practice" or is this thought to be an OSHA or NFPA requirement? Well the answer that I discovered through my research may surprise you... Unfortunately some of us have bought them because we were told, in some cases by OSHA; but the fact is that neither OSHA nor NFPA require non-sparking tools.

Here is NFPA's official position ... *A.6.5.1(8) With respect to frictional heat or sparks, it is recognized that there is a need to control sources of ignition, including mechanical sparks from hand tools, that have sufficient energy to ignite flammable vapors. Studies, anecdotes, codes, and referenced standards (e.g., API 2214, Spark Ignition Properties of Hand Tools) show that there is a potential for hand tool sparks to ignite flammable vapors from a **limited number of chemicals and under certain unique conditions**. These include flammable liquids with low minimum ignition energies, operations in which flammable or combustible liquids are heated, and atypical spark generation that can occur between specific types of hand tools and the item struck. Even spark-resistant tools might not provide suitable protection against all ignition.*

NFPA 30 **does** require analysis of the hazards and risks of a given task and the application of appropriate protective measures to prevent or mitigate the hazards and risks. This includes identification and mitigation of ignition risk from multiple sources, including hand tools. Due to the complexity of the numerous operations involving flammable liquids, NFPA 30 cannot address all conditions in which spark-resistant tools should be made mandatory, or might be advisable.

Before the 2012 edition of NFPA 30, there was no mention of spark-resistant tools, although the 2008 edition of the NFPA 30 handbook included the following statement as commentary to 6.5.1: **Note** that there is no mention of non-sparking tools. Over the years, it has become more accepted that ordinary steel hand tools cannot generate ignition-capable sparks, except under unusual circumstances. (See API RP 2214, Spark Ignition Properties of Hand Tools.)”

The NFPA 30 Technical Committee decided to include Annex A to explain that, although the use of spark-resistant tools is not mandated by the Code, there might be situations in which their use is warranted.

OSHA's position is not so clear, as there are some specific OSHA standards that do require the use of "non-sparking" tools; however, some would argue it is NOT a requirement under OSHA **1910.106(e) (6) (i) "General**. *“Adequate precautions shall be taken to prevent the ignition of flammable vapors. Sources of ignition include but are not limited to open flames; lightning; smoking; cutting and welding; hot surfaces; frictional heat; static, electrical, and mechanical sparks; spontaneous ignition, including heat-producing chemical reactions; and radiant heat.”*

But in, OSHA's spray finishing using flammable materials, 1910.107(g) (2) it does require the use of "non-sparking" tools. This is the **ONLY** "official language" in OSHA's GI standards that requires "non-sparking" tools. OSHA does include the requirement to consider these tools when doing PPE Hazard Assessment.

OSHA has issued citations to employers using the General Duty Clause after accidents involving flammable liquids/vapors/gases where non-sparking tools were NOT being used. So; even though OSHA & NFPA may not "require" these non-sparking tools in the vast majority of activities; experts do for flammable atmospheres, if we are going to be concerned about static electricity, how can we convince ourselves that the tools being used in the midst of the vapor cloud need not be non-sparking tools?