



Town of Islip Fire Marshal's Office Technical Bulletin

Use of Cold Spark Fountain Devices

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Topic: The use of cold spark fountain and similar flame effect devices in places of assembly.

Purpose: To provide information to event organizers, catering staff, music DJ's and other facility managers on the use of these devices for entertainment, exhibition, demonstration or simulation before a proximate audience inside buildings used for public assembly.

The use of cold spark technology in pyrotechnic devices has become an extremely popular entertainment effect, and one that is often characterized as a safe alternative to use indoors during weddings and other types of public events and gatherings. These machines are produced both domestically and by foreign manufacturers and sold under numerous brand names. The common misnomer is that these devices produce sparks that are "cold" and are therefore safe. There are videos on social media that will show individuals placing their hands inside the burning spark effect without getting harmed. The reason a person could do this is that the sparks are bouncing off the hand so rapidly, that the heat they produce isn't being transmitted fully. If the demonstration was to be completed using other types of combustible materials, the result would be much different. Contrary to the product name and what some companies may advertise, there is no such thing as a "cold spark", or pyrotechnic effects that are safer than others.

All spark producing devices burn flammable metals, usually powdered titanium & zirconium. Although the heat produced from these units is lower than standard sparklers, they are still capable of igniting nearby materials. These burning metals are water reactive, so if someone were to use a pressurized water extinguisher on them, an explosion may occur due to the metals releasing hydrogen gas when exposed to water. A specialized fire extinguisher, class "D", is required to extinguish these metal fires.

Many of the manufacturers of these devices market them stating that they do not require any permits or special licenses for their use. While originally unclassified in the pyrotechnics world, in December of 2021, The National Fire Protection Association (NFPA) officially classified these machines as a pyrotechnic device, and as such, the same licensing and permitting requirements apply. This means that to legally use a cold spark fountain machine device in the Town of Islip, you would need to have a valid NYS Department of Labor Pyrotechnician Certificate of Competence Class A or C, and obtain a Permit from the Fire Marshal's office for the display.

In summary, the use of any cold spark fountain device, or any other type of pyrotechnic simulation equipment in front of a proximate audience inside a place of assembly is **ILLEGAL** without possessing a valid NYS Pyrotechnician License and obtaining a Pyrotechnics Permit from the Fire Marshal's office. If these devices are used without a Permit and by an individual without a license, the facility places the lives of everyone in attendance at risk, and faces further legal action taken by the Fire Marshal's office.



Examples of Cold Spark Fountain Devices