



CAL FIRE – Office of the State Fire Marshal Information Bulletin 21-006

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Pyrotechnic Effect Simulation Equipment

The CAL FIRE - Office of the State Fire Marshal (OSFM) is issuing this Information Bulletin to address the use of pyrotechnic devices known as “cold spark technology” or Pyrotechnic Effect Simulation Equipment. Currently, several brands are available on the market. These devices use a composite fuel compound containing the chemical elements Titanium and Zirconium. California Health and Safety Code, Section 12505 identifies any fireworks which contain any of the following: Titanium, except in particle size greater than 100-mesh. or Zirconium as “Dangerous Fireworks”.

The use of any “Dangerous Fireworks” is required to be performed by a pyrotechnic operator licensed by OSFM, as well as follow all “Dangerous Fireworks” permitting, licensing and regulatory requirements. To assist local authorities having jurisdiction (AHJ) with the permitting requirements for proximate audience use of these type of devices, the OSFM is providing the following:

1. The Licensee is required to obtain a local permit from the local authority having jurisdiction.
2. Licensing requirements:
 - A. For film or television production with or without live audience present, an OSFM Pyrotechnic Operator – Special Effects 1st or 2nd Class License.
 - B. For live theater, operatic productions or before a live audience, an OSFM Pyrotechnic Operator – Theatrical or Special Effects 1st Class License.
3. The Licensed Pyrotechnic Operator shall provide a dimensioned plot plan and work with the AHJ to determine the proximity to the audience and fallout radius to ensure fire and public safety.
4. Public liability insurance is required as a condition for a permit to conduct a public display.
5. Applicant for a local permit for use of Pyrotechnic Effect Simulation Equipment shall file a certificate evidencing the possession of a valid OSFM Public Display General, Special or Limited License.
6. Applicant for a local permit for any public display of fireworks shall furnish, at the time of application, proof that he/she carries worker’s compensation insurance for his/her employees.
7. Pre-Display Report pursuant to Title 19, California Code of Regulations (CCR), §993.1 and a Post Display Report pursuant to Title 19, CCR §1005(a) are required.

Exception: A general public display licensee conducting special effects activities for motion picture, television, and theatrical productions need not comply with any of the above reporting requirements. Unless injury to person(s), violations of code or fire caused by fireworks.

In addition, the National Fire Protection Association (NFPA) has issued a Tentative Interim Amendment (TIA) in October 2017 that incorporates the use of “cold spark” devices. Please refer to the following link:

[https://www.nfpa.org/assets/files/AboutTheCodes/1126/Proposed TIA 1317 NFPA 1126.pdf](https://www.nfpa.org/assets/files/AboutTheCodes/1126/Proposed_TIA_1317_NFPA_1126.pdf)

For any questions regarding this Information Bulletin, please contact CAL FIRE - Office of the State Fire Marshal, Fireworks Program at FWX@fire.ca.gov