Michigan Fireworks

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1 A, 1S, 1T
PA 256 of 2011
Michigan Fireworks Safety Act
What We Need To Know
We will discuss

- Documents to be familiar with
- Definitions of the types of fireworks
- Details of PA 256
- Emergency Rules Established
- APA Standard 87-1
- NFPA 1124
- Questions & Concerns
What is the difference

Class 1.4G Consumer Fireworks

Class 1.3G Display Fireworks
It used to be easy!!!
States Allowing Use of Fireworks

Blue: (42) Allow Consumer FW use
Tan: (4) Allow Novelty FW use
Red: (4) Prohibit all FW use

Source: APA website, Jan. 2012
Documents to be Familiar with

• PA 256 of 2011
• APA Standard 87-1 of 2001
• NFPA 1124, Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnics Articles, 2006.
• NFPA 1123, Code for Fireworks Display, 2010
• NFPA 1 (2006)
• NFPA 101 (2009)
UN/DOT Classification System for Explosives and Fireworks

• Div. 1.1G - Large shells, >10”, > 71 grams of powder, mass explosion possible, Camp Grayling

• Div. 1-3G – Display Fireworks, UN0335, Explosives w/mass fire or minor explosion, 4th of July city display

• Div. 1-4G – Consumer Fireworks, UN0431 Explosive articles, no significant blast hazard
  • Includes Low-Impact, Novelties

‘G’ = Pyrotechnics
Definitions

- Articles of Pyrotechnic:
  - for professional use, similar to Consumer FW. Not intended for consumer use.

- Consumer Fireworks

- Low-Impact Fireworks:

- Display Fireworks:

- Novelties:

- Special Effects:
Consumer Fireworks

• Produce visible effect
• Class 1.4G (Class C, Common Fireworks)
• UN0336
• APA 87-1. 3.1.2, 3.1.3, 3.1.5
• Aerial Devices
• Audible Ground Devices
• Mine and Shell Devices
• Aerial Shell Kit, Reloadable tube
Aerial Devices

• Bottle Rockets: 20g powder
• Roman Candles: 20g powder
• Mine and Shell: 60 g of powder
• Aerial Shell Reloadable tube: 60 g, 1.75”
Audible Ground Devices

- Firecracker: 50mg of explosive composition

- Chaser: travels along ground, whistling effect, 20 g of chemical comp.
Low-Impact Fireworks

- “Ground and hand-held sparkling devices”
- Classified as 1.4G (Class C, Common FW)
- APA 87-1. 3.1, 3.1.1.8, and 3.5
- Fountains, Sparklers, Wheel & Spinner
Display Fireworks

• Large fireworks devices with explosive materials intended for use in display.
• Produce visible/audible effects by combustion, deflagration or detonation
• Salutes > 2 grains
• Aerial shells > 40 g
• Other devices with chemical composition that exceeds limits for consumer fireworks.
Novelty

• Small amounts of pyrotechnic composition
• Not listed as 1.4G
• Not regulated
PA 256 of 2011

Michigan Fireworks Safety Act
Permit required
BFS handles all applications
Apply by April 1, every year
Fees: $1,000 for Fixed Location,
$600 Temporary Locations
Both Fixed and Temporary locations must comply with both NFPA 101 and NFPA 1124.

Starting in 2013, all fixed CFRS locations shall be equipped with a fire suppression system (this was waived).

$10M in liability insurance
List of Consumer Grade and Low-Impact sellers.

Low-Impact retail establishments must register.
  • No cost
  • If they sell without registering, shall cease sales until they register.
  • No other penalty
28.457 Local Ordinance
Section 7

• Local AHJ shall not enact or enforce an ordinance regulating the sale, display, storage, transportation, or distribution of fireworks regulated under this act.

• Local AHJ may enact an ordinance regulating the ignition, discharge, and use of **consumer fireworks** except on the day before, day of, and day after a national holiday.
28.462 Prohibited Conduct
Section 12

• Shall not ignite, discharge, or use consumer fireworks on public property, school property, church property, or that of another person without permission. ($500 fine)
• Shall not be sold to a minor. ($500 fine)
• Shall not be used while under the influence of alcohol or controlled substance.
28.464 Firework in Violation of Act
Section 14

- Governmental or Law Enforcement agency that ID’s a firework in violation, shall secure firework and notify the BFS.
- Except for failure to register low-impact
- BFS or PD may seize illegal fireworks and store pending outcome of legal proceedings at expense of owner if found guilty.
28.466 Display Fireworks
Section 16

• Still fall under local control for permits
• Applications obtained through BFS
• NFPA 1123
• ATF Permit is required
• Concern with “skimming” of display fireworks and resale for unauthorized use.
28.468 Violation of act
Section 18

• Unless otherwise provided in this act......
• Misdemeanor 30 days / $1,000
• If property is damaged: 90 days / $5,000
• Cause injury: Felony, 5 years / $5,000
• Cause death: Felony, 15 years / $10,000
• All convictions also carry requirement to reimburse for storage.
28.469 Inspections – Delegation
Section 19

- BFS may delegate authority to inspect and other duties under this act.
- Delegation is happening at this time.
- Local AHJ may still inspect under PA 207 and report violations to the BFS. Nothing in this act removes our PA 207 authority.
Emergency Rules
• Established for 180 days until the rules can be promulgated.
• Established BFS procedures for applications and handling of fees.
• Established what was required on the plans submitted with each application. (1124)
• Verification of compliance. See Rule 9.
  • Affidavit
• Proof of insurance ($10M)
• Covers denials and appeals process.
Local Issues

- Local AHJ **cannot** prohibit the sales of consumer grade or low-impact fireworks
  - Includes Brick/Mortar and tents.

- Local AHJ can establish an ordinance to restrict the use except around holidays.

- Local zoning **should** prevail for use (mercantile) and parking requirements.

- Building permit still required for permanent and temporary use locations. Must comply with MBC.

- Local fire code official can still inspect CFRS under PA 207 and report violations to the BFS.
APA Standard 87-1

• Standard for construction and approval for transportation of fireworks, novelties, and theatrical pyrotechnics.
• Great resource for device definitions and classifications.
• All devices for consumer sale and use shall be labeled and packaged for such use.
• Devices with out consumer label and package are considered to be illegal and dangerous.
APA Standard 87-1

• Provides requirements for:
  • Display fireworks
  • Construction details of fireworks
  • Shipping requirements
Plan Submittal

• Look at requirement
• How many Officials have a copy of 1124?
GUIDELINES

On January 1, 2012, the Michigan Fireworks Safety Act took effect. The Act was created to establish laws relating to fireworks; to regulate the purchase, possession, sale, and use of certain fireworks; and to prescribe the powers and duties of certain state agencies.

On February 1, 2012, Director Steven Hilfinger delegated the responsibility of administering and enforcing this Act to the Michigan Bureau of Fire Services and Michigan’s State Fire Marshal. With that delegation, it became the responsibility of the Bureau of Fire Services to ensure retail locations throughout the State of Michigan comply with nationally accepted standards for the retail sale of consumer and low-impact fireworks, specifically the National Fire Protection Association Standards 101 and 1124.

The Director of the Bureau of Construction Codes and the State Fire Marshal issue this guideline to address, as follows, issues that may arise in the implementation of the Michigan Building Code and the Michigan Fireworks Safety Act:

1. Michigan’s Building, Mechanical, Electrical and Plumbing codes will apply in certain circumstances where they are not in conflict with PA 256 of 2011.

2. It has been determined that NFPA 1124, Section 7.4.4 for Consumer Fireworks Retail Facilities (CFRS) in multi-tenant buildings requiring fire resistant separation will be the two (2) hour as required in NFPA 1124 as opposed to the 3 hour resistance required by the Michigan Building Code.

3. MCL 28.455 Section 5, subsection (b) of the Act states: “Beginning 1 year after the effective date of this act, a permanent building or structure shall be equipped with a fire suppression system in compliance with NFPA 1124.” It has been determined that NFPA 1124 is the prevailing standard for CFRS facilities sprinkler requirements within the State of Michigan. The occupancy classification of CFRS facilities shall be H-3 as defined within the Michigan Building Code.

Definition: High Hazard Group H-3 is a building or structure containing materials that readily support combustion. 1.4G Consumer Fireworks are not explosive materials or mass detonation risk. All items within the Michigan Building Code pertaining to explosives do not apply to consumer fireworks 1.4G.

Irvin J. Poke, Director
Bureau of Construction Codes

Dated: April 17, 2012

Richard W. Miller
State Fire Marshal
NFPA 1124

Code for the Manufacturer, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles, 2006 Edition

Chapter 7 Retail Sales of Consumer Fireworks
7.1.2 Facility Classification

• Permanent buildings and structures:
  • Stores
  • CFRS facilities

• Temporary facilities:
  • CFRS stands: Max. 800 S.F.
  • Tents
  • Canopies
  • Membrane structures
  • Not Cars or pickups
Store
• Mercantile occupancy with a variety of merchandise
• Not used primarily for the retail sales of consumer fireworks
Consumer Fireworks Retail Sales Facility (CFRS)

Used primarily for the retail display and sale of consumer fireworks to the public
Store – Maximum Quantity of Fireworks

• ≤ 25% of retail sales area or 600 sq ft whichever is LESS, and
• Displayed and sold in a manner approved by the AHJ and comply with the applicable provisions of this code, federal and state law, and local ordinances
Stand

CFRS facility ≤ 800 sq ft, but not a tent, canopy or membrane structure used primarily for retail display and sale of consumer fire works
Tent
• No definition in NFPA 1124
• NFPA 101 – Temporary structure...
  pliable material...
  columns, poles...rope or cables
Exempt Amounts – 7.3.1

• Total quantity of pyrotechnic composition \( \leq 125 \text{ lbs} \)
• Total quantity of pyrotechnic composition \( \leq 250 \text{ lbs} \) where building is protected by NFPA 13 sprinkler system
• Total weight of pyrotechnic composition? Use 25\% of gross weight, including packaging
“Rules of Thumb”

• VERY generic – VERY rough
  • One case: 30 – 40 lbs @ 25% 7.5 – 10 lbs of pyrotechnic content per case – Use 10 lbs per case
  • One pallet 300 -400 lbs @ 25% 75 – 100 lbs of pyrotechnic content per pallet – Use 100 lbs per pallet
Exempt Amount??
7.3 General Requirements for ALL

• Exempt amounts previously discussed – 7.3.1
• Permits per state or local requirements – 7.3.2
• Plans for other than tents or stands – 7.3.3
  • Distances
  • Vehicle access and parking
  • Portable fire extinguishers
  • Floor plan and layout
  • Means of egress
  • Construction
General Requirements (Cont’d)

• Fire Department Access – 7.3.4
  • Exterior within 150 ft of public way or

• Construction – 7.3.5
  • One story
  • Permanent per building code
  • NFPA 102 for tents canopies and membrane
  • Temporary greater than 800 ft$^2$ = Permanent
Automatic Sprinklers

- Permanent CFRS facilities and stores
- New > 6000 S.F.
- Existing > 7500 S.F.
Storage 7.3.7

• Storage rooms must have a fire protection system or a 1 hour fire barrier
Portable fire extinguishers

• Per NFPA 10 extra hazard
• Min of 2 2A
• Min of 1 H₂O
• Min of 1 multipurpose dry chemical if electricity
• Max 75 ft TD
No Smoking Signs

No smoking permitted inside or within 50 ft of the CFRS area
Distance from
Bulk Dispensing and Bulk Storage

• CFRS facilities located min. 50 ft from
  • Propane or CNG dispensing
  • Above ground storage

• New CFRS facilities, 50 ft from motor vehicle fuel dispensing

• 300 ft from above ground bulk storage or dispensing of Flammable liquid or gas.
Means of Egress

• Minimum of three exits!!
• Egress cannot go through storage areas

• Doors
  • 36” Minimum
  • Panic Hardware
  • Side-Hinged
  • Direction of Egress
Aisle

- Minimum 48 in.
- Unobstructed
- Dead ends prohibited
- Cross-aisles ≤ 50 ft apart
Aisle Arrangement

- 100 ft (30.4 m) height
- 50 ft (15.2 m) width
- 48 in. (1.2 m) minimum aisle width
Displays

• Applies to CFRS area only
• Max 6 ft high
• Max 12 ft around perimeter
7.3.19 Operations

• Distances from Exits – Min. 5’

• Security
  • Secured when unoccupied
  • No fire works discharge within 300’ of CFRS facility or store

• Display & Handling
  • Min. 50% of floor area shall be open space without product

• Housekeeping
  • Vacuums prohibited
  • Damaged product removed and not sold
Training & Records

• All personnel handling consumer fireworks shall receive safety training.
• No sale to persons under the influence of alcohol or drugs.
• Records of inventory maintained on premises and available for review by AHJ.
Consumer Fireworks Retail Sales Facilities – Specific Requirements
7.4 Consumer Fireworks Retail Sales (CFRS) Facilities

• Construction
  • $\leq 8000 \text{ ft}^2$ no requirements but per building code
  • $> 8000 \text{ ft}^2$ noncombustible or 2-hour Type III

• Multi-tenant buildings (new only)
  • 2-hr fire resistance rated separation with no openings (protected or not)
  • 1-hr if protected by AS
  • Penetrations protected per NFPA 101
7.4.4 Multiple-Tenant Buildings

- CFRS facility separated from other tenants with 2 hour fire separation barrier with no openings. MBC is 3 hours
- Reduced to 1 hour when protected with sprinkler system.
CFRS Fire Protection & Prevention

- Portable fire extinguishers max 75 ft TD
- Permanent CFRS over 3000 ft² public address or fire alarm from a constantly attended location
- 30 ft clearance to brush, etc
- No vehicle parking for storage within 10 ft
- NO FIREWORKS DISCHARGE WITHIN 300 FEET
Stores
Stores – Specific Requirements

• Under visual supervision of store employee
• Product must be packaged
• Packaged and displayed to limit travel of ejected components if ignited
• Special limitations on aerial devices
  • Physically separated to restrict entry
  • Two ways out
  • 35 ft max travel distance out of the space
7.6 Stands – Specific Requirements
Stands (cont’d)

• < 200 ft² need only 1 portable fire extinguisher
• Evacuation plan not required
• Temporary stands minimum of 2 exits
• Maximum travel distance 35 ft.
• Consumers NOT permitted in stand unless it meets 7.3.14 (general egress requirements)
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Questions?