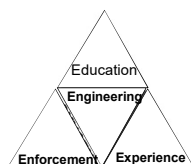


Fire Inspector Certification Program

New Jersey Uniform Fire Code Inspector training program

Module 13 Specific Operations



Welcome

Instructor introduction

- Before we get started
 - Has everyone signed in?
 - Anyone have any questions?

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Chapter 13 Specific Operations

In this module we will discuss what the code requires for these operations:

- ☐ Chapter 20 Aviation Facilities
- ☐ Chapter 21 Dry Cleaning
- ☐ Chapter 22 Combustible Dust-Producing Operations
- ☐ Chapter 23 Motor Fuel Dispensing Facilities & Repair Garages
- ☐ Chapter 24 Flammable Finishes
- ☐ Chapter 25 Fruit & Crop Ripening

3

Chapter 13 Specific Operations

In this module we will discuss what the code requires concerning

- ☐ Chapter 26 Fumigation & Insecticidal Fogging
- ☐ Chapter 27 Semiconductor Fabrication Facilities
- ☐ Chapter 28 Lumber Yards & Agro-Industrial, Solid Biomass & Woodworking Facilities
- ☐ Chapter 29 Manufacture of Organic Coatings
- ☐ Chapter 30 Industrial Ovens
- ☐ Chapter 31 Tents and Membrane Structures

4

Chapter 13 Specific Operations

In this module we will discuss what the code requires concerning

- ☐ Chapter 32 High-Piled Combustible Storage
- ☐ Chapter 33 Fire Safety During Construction and Remodeling
- ☐ Chapter 34 Tire Rebuilding & Tire Storage
- ☐ Chapter 35 Welding & Other Hot Work
- ☐ Chapter 36 Marinas
- ☐ Chapter 37 Combustible Fibers

5

Chapter 20 – Aviation Facilities



6

Chapter 20

2001 General
2002 Definitions
2003 General Precautions
2004 Aircraft Maintenance
2005 Portable Fire Extinguishers
2006 Aircraft Fueling
2007 Helistops and Heliports

7

Chapter 20

- This chapter applies to Airports, Heliports and Helistops. It includes aircraft hangars
- It specifies controls on sources of ignition prohibiting open flames within 50 feet of aircraft
- It provides for Fire Department access without passing under aircraft
- There is a detailed chapter on fueling and requirements for spill control and reporting to the Fire Official
- Helistops and Heliports must follow the same requirements as fixed wing air craft

Medivac operations are exempt from
this chapter

8

Chapter 21 - Dry Cleaning



9

Chapter 21

- 2101 General**
- 2102 Definitions**
- 2103 Classifications**
- 2104 General Requirements**
- 2105 Operating Requirements**
- 2106 Spotting and Pretreating**
- 2107 Dry Cleaning Systems**
- 2108 Fire Protection**

10

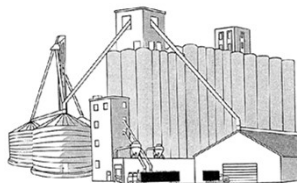
Chapter 21

- This chapter applies to dry cleaning plants rather than to most dry cleaning drop off locations.
- The hazards being monitored are the solvents being used in this non-aqueous cleaning operations
- There are five classes of solvents. Class I has a flash point below 100 Fahrenheit and is no longer allowed for general use. It may be used for spot treating with specific guidelines

Based on the hazard level ventilation,
and fire protection vary by solvent class

11

Chapter 22 – Combustible Dust Producing Operations



12

Chapter 22

2201 General

2202 Definitions

2203 Precautions

2204 Explosion Protection

13

Chapter 22

- This chapter applies to combustible dust producing operations.
- Combustible dust is defined as finely divided solid material which is 420 Microns or less. It will pass through a U.S. No. 40 standard sieve

Table 2204.1 covers the ten referenced standards that are applicable to these dust products.

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Chapter 23 - Motor Fuel Dispensing Facilities & Repair Garages



Chapter 23

2301 General
2302 Definitions
2303 Location of dispensing devices
2304 Dispensing Operations
2305 Operational Requirements
2306 Flammable and Combustible liquid motor fuel dispensing facilities
2307 Liquefied Petroleum Gas motor fuel dispensing facilities
2308 Compressed Natural Gas motor fuel dispensing facilities
2309 Hydrogen motor fuel dispensing and generation facilities
2310 Marine motor fuel dispensing facilities
2311 Repair Garages

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Chapter 23

2301 General
2302 Definitions
2303 Location of dispensing devices
2304 Dispensing Operations
2305 Operational Requirements
2306 Flammable and Combustible liquid motor fuel dispensing facilities
2307 Liquefied Petroleum Gas motor fuel dispensing facilities
2308 Compressed Natural Gas motor fuel dispensing facilities
2309 Hydrogen motor fuel dispensing and generation facilities
2310 Marine motor fuel dispensing facilities
2311 Repair Garages

This is a complex chapter and each gaseous fueling section must be thoroughly reviewed. General guides follow.

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Chapter 23

□ 2301 General

- **2301.4 Indoor motor fuel-dispensing facilities.** Shall comply with the construction code in effect at time of construction and NFPA 30A.
- **2201.5 Electrical.** Shall comply with Section 605, NFPA 30A and the electrical sub code of the UCC.
- **2201.6 Heat-producing appliances.** Heat-producing appliances shall be suitable for the locations in which they are installed and shall comply with NFPA 30A and the fuel gas and mechanical sub code of the UCC.

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Chapter 23

■ 2303 Location of Dispensing Devices

- **2303.2 Emergency disconnect switches.** An approved, clearly identified and readily accessible emergency disconnect switch shall be provided at an approved location, to stop the transfer of fuel to the fuel dispensers in the event of a fuel spill or other emergency.



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Chapter 23

■ 2304 Dispensing Operations

- This section requires supervision, emergency controls, emergency procedure instructions posted.
- The section also provides guidance for filling portable containers

■ 2305 Operational Requirements

- This section provides requirements for delivery trucks.
- The section also provides guidance for fire protection, protection from ignition and other hazards and specific language to be posted at dispensers

20

Chapter 23

■ 2305 Operational Requirements

1. No smoking.
2. Shut off motor.
3. Discharge your static electricity before fueling by touching a metal surface away from the nozzle.
4. To prevent static charge, do not re-enter your vehicle while gasoline is pumping.
5. If a fire starts, do not remove nozzle—back away immediately.
6. It is unlawful and dangerous to dispense gasoline into unapproved containers.
7. No filling of portable containers in or on a motor vehicle. Place container on ground before filling.

21

Chapter 23

- 2306 *Flammable and Combustible liquid motor fuel dispensing facilities*
- 2307 *Liquefied Petroleum Gas motor fuel dispensing facilities*
- 2308 *Compressed Natural Gas motor fuel dispensing facilities*
- 2309 *Hydrogen motor fuel dispensing and generation facilities*
- 2310 *Marine motor fuel dispensing facilities*

22

Chapter 23

■ 2311 *Repair Garages*

This section provides guidance for hazard control during repair. There is specific guidance for the gaseous fuels including ventilation, detection and alarm.

23

Chapter 24 - Flammable Finishes



Chapter 24

2401 General
2402 Definitions
2403 Protection of Operations
2404 Spray Finishing
2405 Dipping Operations
2406 Powder Coating
2407 Electrostatic Apparatus
2408 Organic Peroxides and dual component coatings
2409 Indoor manufacturing of reinforced plastics
2410 Floor surfacing and finishing operations

25

Chapter 24

2401 General

This chapter covers all methods of applying flammable finishes. Each operation has specific hazards that must be controlled to prevent fire and/or explosion.

Non-applicability for operations that use finishes that do not support combustion

26

Chapter 24

2403 Protection of Operations

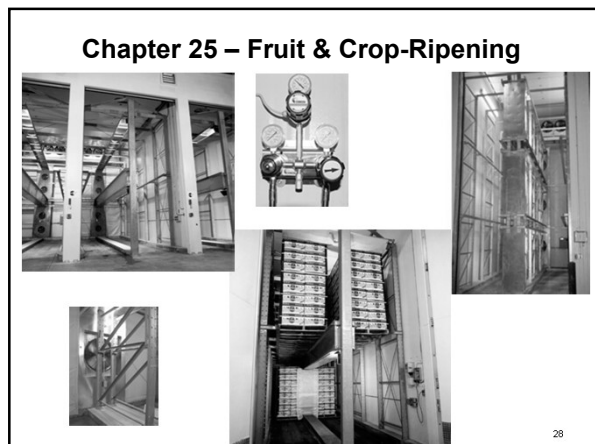
This chapter covers all methods of applying flammable finishes. Each operation has specific hazards that must be controlled to prevent fire and/or explosion.

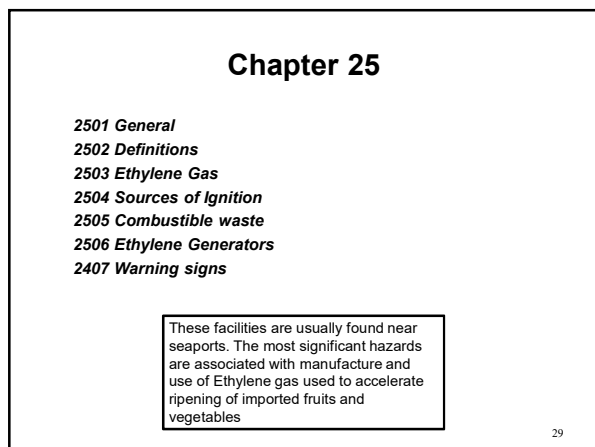
This section covers control of electrical hazards, residue control and areas adjacent to spray booths

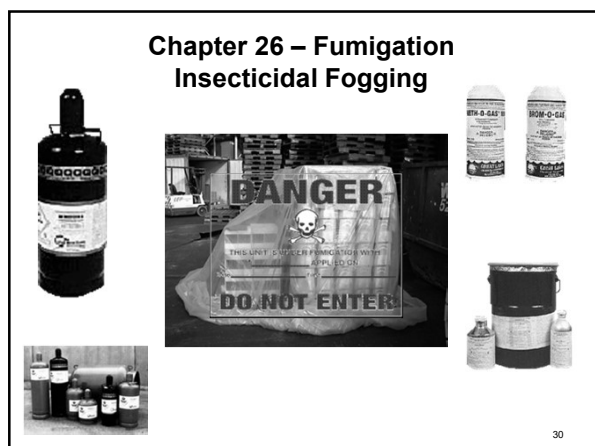
Emphasis is placed on control of vapor sources from heat sources

Instructors will lead review of sections
2404 through 2410

27







Chapter 26

2601 General

2602 Definitions

2603 Fire Safety Requirements

Use of fumigants within structures shall comply with this chapter. This process requires a Type 2 permit and a list of very specific precautions including power disconnect and posting of warning signs.

There are specific requirements for fire watch and emergency response operations and equipment.

31

Chapter 27 – Semiconductor Fabrication Facilities



Chapter 27

2701 General

2702 Definitions

2703 General Safety Provisions

2704 Storage

2705 Use and Handling

These facilities are listed as Use Group H-5 and as such require application of the Hazardous Material section of the code

33

Chapter 27

2703 General Safety Precautions

- This section provides for establishment of 'Emergency control stations'
- It requires an Emergency plan
- Specific guidelines exist for solids, liquids and gases
- Depending on the products there are requirements for Gas detection, Gas shutoffs and exhaust requirements

Instructors will lead review of sections
2703 through 2705

34

Chapter 28 - Lumber Yards & Agro-Industrial, Solid Biomass & Woodworking Facilities



Chapter 28

- 2801 General
- 2802 Definitions
- 2803 General Requirements
- 2804 Fire Protection
- 2805 Plywood, Veneer and composite Board Mills
- 2806 Log Storage
- 2807 Storage of woodchips
- 2808 Storage and processing of wood chips, hogged.....
- 2809 Exterior storage of finished lumber.....

36

Chapter 28

2801.1 Scope

The storage, manufacturing and processing of solid biomass feedstock, timber, lumber, plywood, nonmetallic pallets, veneers and agro-industrial byproducts shall be in accordance with this chapter and NFPA 230

2803 General Requirements

This section covers a wide variety of requirements for dust control, explosion venting, electrical equipment and other ignition sources

Instructors will lead review of sections
2804 through 2809

37

Chapter 29 – Manufacturer of Organic Coatings



38

Chapter 29

2901 General

2902 Definitions

2903 General Precautions

2904 Electrical equipment and protection

2905 Process Structures

2906 Process Mills and Kettles

2907 Process Piping

2908 Raw Materials in Process Areas

2909 Raw Materials and Finished Products

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Chapter 29

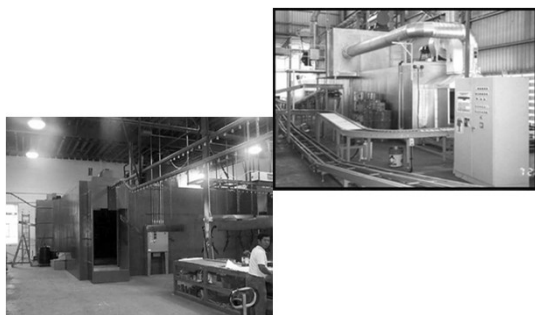
2901.1 Scope

- Organic coating manufacturing processes shall comply with this chapter except that this chapter shall not apply to processes manufacturing nonflammable or water-thinned coatings or to operations applying coating materials.

Instructors will lead review of sections
2903 through 2909

40

Chapter 30 Industrial Ovens



41

Chapter 30

- 3001 General**
- 3002 Definitions**
- 3003 Location**
- 3004 Fuel Piping**
- 3005 Interlocks**
- 3006 Fire Protection**
- 3007 Operation and Maintenance**

42

Chapter 30

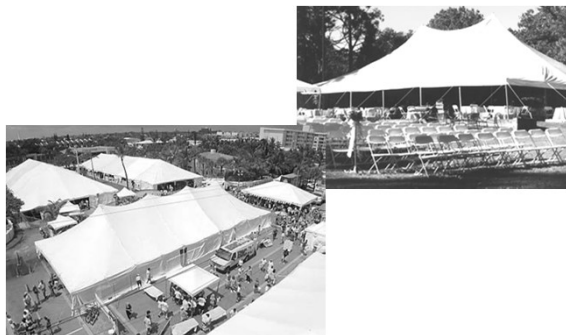
3001.1 Scope

- This chapter shall apply to the installation and operation of industrial ovens and furnaces. Industrial ovens and furnaces shall comply with the applicable provisions of NFPA 86, the construction code in effect at the time of construction and this chapter. The terms "ovens" and "furnaces" are used interchangeably in this chapter.

Instructors will lead review of sections
3003 through 3007

43

Chapter 31 - Tents & Membrane Structures



44

Chapter 31

- 3101 General**
- 3102 Definitions**
- 3103 Temporary Tents and Membrane Structures**
- 3104 Temporary and Permanent Tents and Membrane Structures**
- 3105 Temporary Stage Canopies**

45

Chapter 31

3101.1 Scope

- Tents, temporary stage canopies and membrane structures shall comply with this chapter. The provisions of Section 3103 are applicable only to temporary tents and membrane structures. The provisions of Section 3104 are applicable to temporary and permanent tents membrane structures. Other Temporary structures shall comply with the building sub code of the Uniform Construction Code.

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Chapter 31

3103 Temporary Tents and Membrane Structures

3103.1 General

- Tents and membrane structures used for temporary periods shall comply with this section. Other temporary structures erected for a period of 180 days or less shall comply with the building sub code of the *Uniform Construction Code*.

Tents require either a UCC permit or a UFC permit or both in accordance with 5:70-2.7 as outlined in this section.

UCC always required for use of electric and other specific conditions

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Chapter 31

3103 Temporary Tents and Membrane Structures

- This section has very specific details and requirements for these structures
- When occupant load meets or exceeds 50 detailed site and floor are required
- Inspections required at least twice if used over 30 days
- Specific requirements detail separation distances, access, parking and fire apparatus access
- Specific requirements detailed for exits and exit access lighting and emergency lights

48

Chapter 31

3104 Temporary and Permanent Tents and Membrane Structures

- Tents and membrane structures, both temporary and permanent, shall be in accordance with this section. Permanent tents and membrane structures shall comply with the building sub code of the *Uniform Construction Code*.

Similar to 3103 this section has specific requirements regarding flame resistance, labeling, certification, combustible and flame control, etc.

49

Chapter 31

3105 Temporary Stage Canopies

- Section requires construction documents and associated design criteria and calculations
- Designation of a responsible party for the site
- An independent professional inspection and report
- Egress shall comply with chapter 10

50

Chapter 32 – High-Piled Combustible Storage



51

Chapter 32

3201 General
3202 Definitions
3203 Commodity Classification
3204 Designation of High-Piled Storage Areas
3205 Housekeeping and Maintenance

52

Chapter 32

3201 General

- This section has specific restrictions and requirements for specific hazardous products.
- It also details construction plans that must be maintained on premises including:
 - Floor plan
 - Aisles width
 - Height of racks and material on them
 - Fire detection and suppression systems
- An evacuation plan .

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Chapter 32

3203 Commodity Classification

- This section lists the five commodity classifications that qualify for high piled storage
- The section also identifies three classifications of plastics that also qualify for high piled storage

3204 Designation of High-Piled Storage Areas

- This section provides for the quantity of material to be stored. The highest hazard shall be used

3205 Housekeeping and Maintenance

- This section focuses on elimination of ignition sources, aisle maintenance and fire department access.

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Chapter 33 Fire safety during construction



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Chapter 33

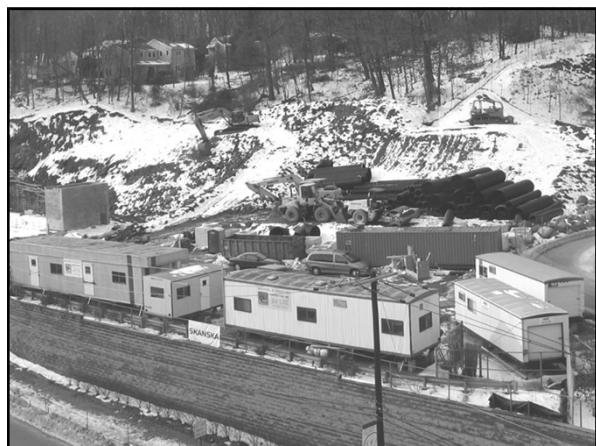
- 3301 General*
- 3302 Definitions*
- 3303 Temporary Heating Equipment*
- 3304 Precautions Against Fire*
- 3305 Flammable and Combustible Liquids*
- 3306 Flammable Gases*
- 3307 Explosives*
- 3308 Owners responsibility for fire protection*
- 3309 Fire Reporting*

56

Chapter 33

- 3310 Access for fire fighting*
- 3311 Means of Egress*
- 3312 Water supply for fire Protection*
- 3313 Standpipes*
- 3314 Automatic Sprinkler System*
- 3315 Portable Fire Extinguishers*
- 3316 Motorized Construction Equipment*
- 3317 Safeguarding Roofing Operations*

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Chapter 33

- *This Chapter does not interfere with construction permit requirements.*
- *This Chapter relates only to Fire Safety Elements.*
 - Access to site when combustibles present
 - Provides for water for fire suppression when combustibles arrive on site
 - Access for emergency response

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Chapter 33

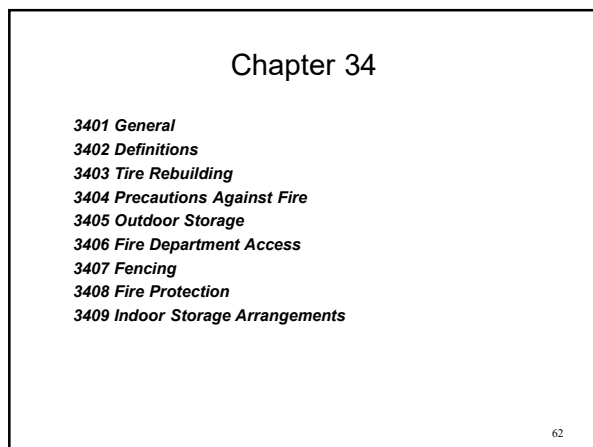
■ 3301 General

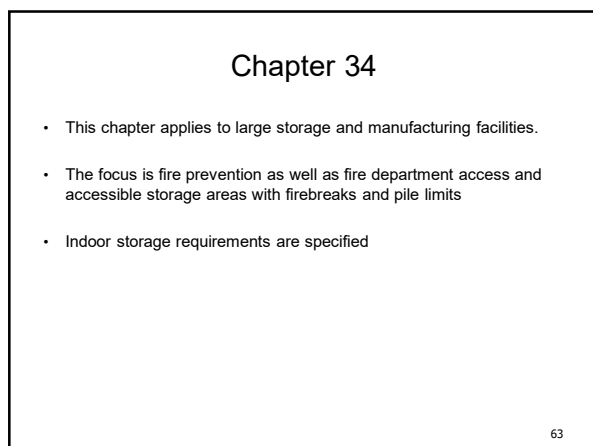
- **3301.1 Scope.** This chapter shall apply to structures in the course of construction, alteration, or demolition, including those in underground locations. Compliance with NFPA 241 is required for items not specifically addressed herein.
- **3301.2 Purpose.** This chapter prescribes minimum safeguards for construction, alteration, and demolition operations to provide reasonable safety to life and property from fire during such operations.

Instructors will lead review of sections
3303 through 3317

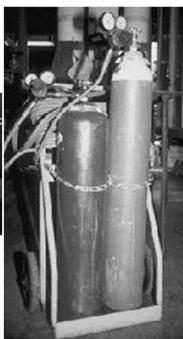
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Chapter 35 - Welding & Other Hot Work



Chapter 35

3501 General
3502 Definitions
3503 General Requirements
3504 Fire Safety Requirements
3505 Gas Welding and Cutting
3506 Electric Arc Hot Work
3507 Calcium Carbide Systems
3508 Acetylene Generators
3509 Piping Manifolds and Hose Systems for Fuel Gases and Oxygen
3510 Hot Work on Flammable and Combustible Liquid Storage Tanks

65

Chapter 35

3501 General

- This section provides guidance for hot work locations, restricted areas and references for compressed gases and oxygen manifold systems.

- Hot work requires a type 1 permit as defined in 5:70-2.7

3503 General Requirements

- This section establishes guidelines for hot work programs, Operator requirements, record keeping and signage restricted areas

Instructors will lead review of sections
3504 through 3510

66

Chapter 36 Marinas

- **New Chapter** in IFC 2015 NJ Edition
- **All Construction references removed**
- **Chapter focus is**
 - General Precautions
 - Fire Protection Equipment

67

Chapter 37, Combustible Fibers



Chapter 37

- 3701 General*
- 3702 Definitions*
- 3703 General Precautions*
- 3704 Loose Fiber Storage*
- 3705 Baled Storage*

69

Chapter 37

This chapter focuses on cotton and combustible fibers. It may apply at "Big Box" stores and similar facilities where corrugated and similar materials are shredded and baled.

Focus is on controlling sources of ignition

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Next Lesson

Module 14

Hazardous Materials

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Homework Assignments

For next module as stated in the syllabus

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End of Module

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