



## Public Comment No. 4-NFPA 2001-2023 [ Section No. 4.4.1 ]

### 4.4.1

Before system cylinders are handled or moved, the following steps shall be taken:

- (1) Cylinder outlets shall be fitted with anti-recoil devices, cylinder caps, or both, whenever the cylinder outlet is not connected to the system pipe inlet.
- (2) Cylinder caps shall be fitted whenever the cylinder is removed from the retaining bracketing.
- (3) Actuators shall be disabled or removed before cylinders are removed from retaining bracketing.

## Statement of Problem and Substantiation for Public Comment

Adding cylinder cap requirement for NFPA 2001 to be compliant to with OSHA 1926.350(a)(1).

### Related Item

- Public Input No. 35

## Submitter Information Verification

**Submitter Full Name:** Stefan Sekula

**Organization:** Minimax Viking R&D, GmbH

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue Dec 05 08:00:21 EST 2023

**Committee:** GFE-AAA

## Committee Statement

**Committee Action:** Rejected but see related SR

**Resolution:** SR-1-NFPA 2001-2024

**Statement:** The section was rewritten to clarify the intent of the section as follows:

Securing the cylinder caps prior to removing the cylinders from the retaining device shall provide additional safety margin for technicians working with the equipment. (1) was revised to only include anti-coil devices. (3) was updated to retaining devices to provide a more consistent terminology.



## Public Comment No. 1-NFPA 2001-2023 [ Section No. 5.2.2.6 ]

### 5.2.2.6

All threads used in joints and fittings shall conform to ASME B1.20.1, *Standard on Pipe Threads, General Purpose, Inch*, or ISO 7-1, *Pipe Threads Where Pressure-Tight Joints Are Made on the Threads — Part 1: Dimensions, Tolerances and Designation*. ~~Joint~~ (here, joint compound, tape, or thread lubricant shall be applied only to the male threads of the joint) or ISO228-1, Pipe Threads Where Pressure-Tight Joints Are Not Made on the Threads (here the pressure-tightness is made by pressing together two sealing surfaces being outside of the threads by using an appropriate sealant, e.g. an o-ring or a metallic flat gasket).

### Statement of Problem and Substantiation for Public Comment

More and more components (e.g. hoses, regulators, check valves, manifolds etc.) on the market used within clean agent extinguishing systems have o-ring sealings to make connections tight. Many of these components are UL and FM approved (plus have all the relevant European approvals). Some suppliers say that these kind of sealings are technically more advanced than existing pipe connections with PTFE tape or hemp).

An example could be the QUANTUM manifold and high pressure pipe system from HDT Füsser (<https://www.hdt-fuesser.de/english/systeme.html>). HDT Füsser supplies many fire suppression companies in Europe. The sealing of the QUANTUM system should never be done via the threads, as it is known that a complex installation has to be done. The system uses the threads only to create the seal via a force fit in the O-ring and the associated two sealing surfaces. This is seen as a significant advancement in the components of time and safety with the QUANTUM system, which can be installed without tools or sealant.

The connection in the QUANTUM system is tight in the external thread even without sealant. Especially since NFPA2001 4.2.2.6 only requires sealant in the male thread if it is needed. Furthermore, we are also aware that the used O-rings could require UL certification acc. UL2127.

EN ISO228-1 points out that pressure-tightness has to be achieved by pressing two sealing surfaces onto each other AND by interposing a suitable gasket.

Next to QUANTUM there are much more clever solutions and products who could make use of the adaptation of the NFPA2001 standard.

#### Related Item

- PI

### Submitter Information Verification

**Submitter Full Name:** Benedikt Hauber

**Organization:** Siemens AG

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Wed Sep 06 08:32:52 EDT 2023

**Committee:** GFE-AAA

## Committee Statement

**Committee Action:** Rejected but held

**Resolution:** The technical committee understands that new fittings have been developed. Technical Committee would like more time to review ISO 228-1 standard so that it can be properly incorporated in the next cycle.



## Public Comment No. 5-NFPA 2001-2023 [ Section No. 7.1.8.2 ]

### 7.1.8.2

~~Designers~~ For calculation of enclosure vent area, designers shall consult ~~the~~ either:

- 1) The system manufacturer's recommended procedures relative to enclosure venting.
- 2) The system manufacturer's approved calculation software.
- 3) Other recognized methodologies.

*[For pressure relief vent area or equivalent leakage area, see 6.1.2.5(28).]*

### Statement of Problem and Substantiation for Public Comment

The FSSA Pressure Venting Guide is listed in Appendix A, but other Methodologies exist. Section also must allow for use of manufacturer calculations, when provided.

#### Related Item

- Public Input No. 42

### Submitter Information Verification

**Submitter Full Name:** Stefan Sekula

**Organization:** Minimax Viking R&D, GmBh

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue Dec 05 08:58:47 EST 2023

**Committee:** GFE-AAA

### Committee Statement

**Committee Action:** Rejected

**Resolution:** The current text in NFPA 2001 allows manufacturers to specify appropriate measures to handle room pressures.

**Public Comment No. 3-NFPA 2001-2023 [ New Section after 9.4.10 ]****9.4.10.3**

The electric actuator that removed from the agent storage container discharge valve shall be secured and placed on actuator holder or solenoid pocket to prevent mechanical damage and loss of integrity.

**Additional Proposed Changes**

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Solenoid_Pocket_SOKET_.png	Before and After using Solenoid Pocket	
General_Specification_SOKET.pdf	General specification for SOKET not limited to other actuator holder	

**Statement of Problem and Substantiation for Public Comment**

Actuator broken is one of the major problems for functional failure of FM-200 system based on comprehensive analysis and evaluation. This condition can make liquid loss and unreadiness of FM-200 system. Mechanical damage resulted from disconnection process on FM-200 system as no bracket or pocket to hold and secure actuator while maintenance or testing process. In current situation there is no statement to secure or hold the actuator, it has not been stated on Appendix A.9.4.10.1 (NFPA 72, 14.2.6.4 requires that "Suppression system shall be secured from inadvertent actuation, including disconnection of releasing solenoids or electric actuator, closing of valves, other actions, or combinations thereof, for the specific system, for the duration of the fire alarm system testing.") how the technical procedure or process of securing the solenoid while fire alarm system testing. It's highly recommended to add additional statement to prevent similar condition in other places by adding actuator holder or solenoid pocket as the solution for this problem.

**Related Item**

- PI

**Submitter Information Verification**

**Submitter Full Name:** Wahyu Hidayat  
**Organization:** PT Badak NGL  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Thu Nov 16 19:41:30 EST 2023  
**Committee:** GFE-AAA

**Committee Statement**

**Committee Action:** Rejected  
**Resolution:** Section 9.4.5 already requires that operating devices are protect so that they are not subject to mechanical damage. Therefore, this additional requirement is not necessary.



**BEFORE**



**AFTER**



# General Specification Solenoid Pocket (SOKET)

## 1.0 Scope

This Specification defines material and dimension minimum requirements for the design of Solenoid Pocket (SOKET). The specification aimed primarily at design features and at the quality of the SOKET. It specifies the general types of major material to be used in the SOKET production process.

## 2.0 References

The codes, standards and specification listed below are cited in this specification. Most of codes and standards cited in the general specifications are of Indonesian or U.S. and Europe origin. The citations are to the latest edition except where a specific edition is cited.

NFPA 72, National Fire Alarm and Signaling Code®

NFPA 1961, Standard on Fire Hose

NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems

UU No. 1 / 1970 tentang Keselamatan Kerja

## 3.0 General

The materials, design, fabrication and testing of SOKET described herein shall be in accordance with the latest editions of the codes and standards referenced, and as supplemented, modified and or superseded by this specification. All components and installation procedures shall be governed by this specification in conjunction with referenced standards.

## 4.0 Material Specification

### 4.1 Waste Fire Hose :

- 100% Synthetic Rubber Fire Hose
- Easy to clean No need to dry.
- Damage is easy to repair.
- Resistant to hot weather or humid air.
- Not curved.
- Resistant to chemicals.
- Hose meets or exceeds specifications for heat and kink resistance.
- Lay-flat, lightweight and flexible ideally suited for industrial fire protection and in-plant apparatus.
- Hose designed to resist cracking, mildew, and rot. n Resists fuels, oils and a wide range of chemicals and bases.
- Underwriters Laboratories listing and Factory Mutual approval available on 1½" and 2½" diameters.
- Manufactured to meet or exceed NFPA 1961 standard.



#### 4.2 Adhesive :

- Chemical Type : Ethyl cyanoacrylate
- Appearance (uncured) : Transparent, colorless to straw
- Components : One part - requires no mixing
- Viscosity : Low
- Cure : Humidity
- Application : Bonding
- Key Substrates : Plastics, Rubbers and Metals
- Adhesive Properties
- After 24 hours @ 22 °C
- Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm <sup>2</sup> 14.2 (psi) (2,060)
Aluminum (grit blasted)	N/mm <sup>2</sup> 10.8 (psi) (1,570)
Zinc dichromate	N/mm <sup>2</sup> 5.9 (psi) (860)
ABS	N/mm <sup>2</sup> 7.9 (psi) (1,150)
PVC	N/mm <sup>2</sup> 8.7 * (psi) (1,260)
Polycarbonate	* N/mm <sup>2</sup> 8 * (psi) (1,160)
Phenolic	N/mm <sup>2</sup> 9.9 (psi) (1,440)
Neoprene	N/mm <sup>2</sup> 1 * (psi) (145)
Nitrile	N/mm <sup>2</sup> 1.3 * (psi) (190)
Tensile Strength, ISO 6922: Buna-N	N/mm <sup>2</sup> ≥6.0LMS (psi) (≥870)

#### 4.3 Cable Ties :

Technical Specifications	
Material	Nylon 66
Operating Temp	-40 to +85°C
Flammability	UL 94 V2
UV Light/Ozone Resistance	Medium
Oils & Grease Resistance	Excellent
Solvents Resistance	Good
Petrol Resistance	Excellent
Standards	UL E70062, BS EN 62275:2009 and UL1565

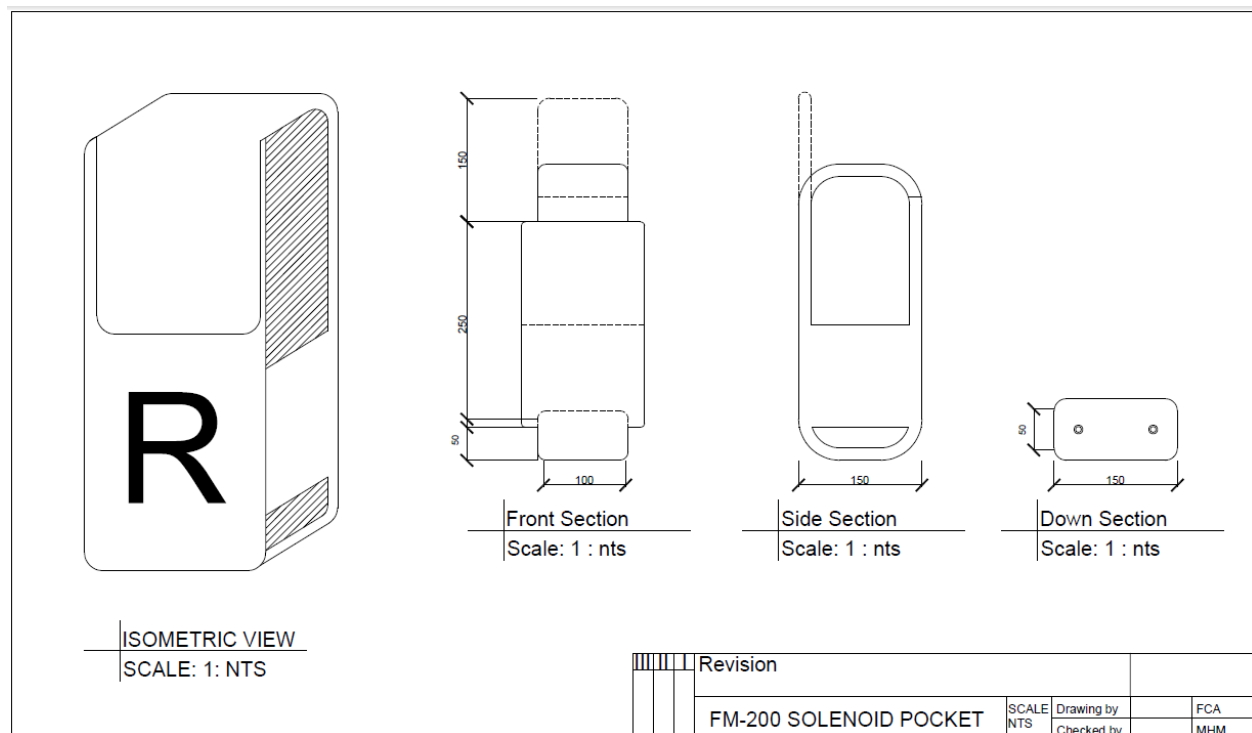
#### 4.4 Marker Sticker :

- UV Resistant
- Waterproof

#### 4.5 Safety Seal :

- 2 inch paper insulation
- 12 yards long
- Yellowish paper color
- Suitable for painting

### 5.0 Design Specification



### 6.0 Installation Specification

- Where there is a process of solenoid disconnection of total flooding or suppression system, solenoid pocket (SOKET) must be included on the installation to prevent inadvertent actuation and mechanical damage to solenoid.
- Solenoid actuator shall be secured and placed on SOKET.
- SOKET shall be placed to the nearest reel or structure on total flooding or suppression system cabinet
- SOKET shall be secured with safety seal to prevent incompetent or disinterested people from sabotage or inadvertent move.

### 7.0 Testing and Quality Check

- Each new SOKET product shall be tested with a load 3 times more than solenoid on the location where SOKET will be placed
- Adhesive strength checks need to be carried out by opening and closing the SOKET 50 times



## Public Comment No. 7-NFPA 2001-2023 [ Section No. 9.7.2 ]

### 9.7.2\*

For hazard areas subject to fast-growth fires, or where the provision of a time delay would increase the threat to life and property, a time delay shall be permitted to be eliminated.

## Statement of Problem and Substantiation for Public Comment

There are cases where a slow growing fire could still need to be addressed quickly. For instance a smoldering fire inside a dust collector could need to be addressed quickly to limit damage.

### Related Item

- Committee Discussion

## Submitter Information Verification

**Submitter Full Name:** Brad Stilwell

**Organization:** Fike Corporation

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Wed Dec 27 15:17:24 EST 2023

**Committee:** GFE-AAA

## Committee Statement

**Committee Action:** Rejected but see related SR

**Resolution:** SR-4-NFPA 2001-2024

**Statement:** The current text focused on fast growth fires and although fast growth fires are a reason to eliminate time delays there are other fires where rapid agent deployment is necessary. The fast-growth fires wording was moved to the appendix.

There are instances where the addition of a time delay will result in an unacceptable damage to equipment or processes so there must be a process to ensure personnel safety and allow for the omission of a time delay.

A supervised lockout valve is added because it is important that personnel not be exposed to dangerous levels of agent concentration. NFPA 12 also requires the use of a lockout valve in such circumstances.



## Public Comment No. 8-NFPA 2001-2023 [ Sections 11.3.4, 11.3.5 ]

### Sections 11.3.4, 11.3.5

#### 11.3.4\*

For inert gas clean agents, if a container shows a loss in pressure (adjusted for temperature) of more than 5 percent, it shall be refilled or replaced.

#### 11.3.

5—

~~Where container pressure gauges are used to comply with 11.3.4, they 4.1~~

~~If an inert gas container pressure gauge shows any loss in pressure (adjusted for temperature) it shall be compared to a separate calibrated device at least annually pressure gauge .~~

### Statement of Problem and Substantiation for Public Comment

Pressure gauges used on inert gas systems that are Listed have shown to have a high degree of quality. The current test requires each gauge to be compared to a calibrated gauge annually. Actual field testing has shown this exercise verifies that the Listed gauges work as designed. Any cylinder that shows any leakage should be further evaluated but checking cylinders that show no leakage is a safety risk and can actually create a leak where there was not one before.

#### Related Item

- 14

### Submitter Information Verification

**Submitter Full Name:** Brad Stilwell

**Organization:** Fike Corporation

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Wed Dec 27 15:40:02 EST 2023

**Committee:** GFE-AAA

### Committee Statement

**Committee Action:** Rejected but see related SR

**Resolution:** SR-2-NFPA 2001-2024

**Statement:** Pressure gauges used on inert gas systems are listed. Semiannual and annual inspections have shown that the listed gauge work as designed. Requiring annual verification of gauges accuracy introduces additional safety risks during maintenance and possibility of introducing leakage from the cylinder.



## Public Comment No. 6-NFPA 2001-2023 [ Section No. A.3.3.10 ]

### A.3.3.10 Deep-Seated Fire.

A characteristic of this type of combustion is the slow rate of heat ~~losses~~ loss from the reaction zone. Thus, the fuel remains hot enough to exothermically react with oxygen, even though the rate of reaction, which is controlled by diffusion processes, is extremely slow. Deep-seated fires can continue to burn for many weeks, for example, in bales of cotton and jute and heaps of sawdust. A deep-seated fire ceases to burn only when either all the available oxygen or fuel has been consumed or the fuel surface is at too low a temperature to react.

Deep-seated fires usually are extinguished by reducing the fuel temperature, either directly by application of a heat-absorbing medium, such as water, or by blanketing with an inert gas. The medium slows the reaction rate to the point where heat generated by oxidation is less than heat losses to surroundings. This causes the temperature to fall below the level necessary for re-ignition after removal of the inert atmosphere.

## Statement of Problem and Substantiation for Public Comment

Editorial, grammatical correction

### Related Item

- Editorial

## Submitter Information Verification

**Submitter Full Name:** Thomas Wysocki

**Organization:** Guardian Services, Inc.

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Wed Dec 13 19:07:26 EST 2023

**Committee:** GFE-AAA

## Committee Statement

**Committee Action:** Accepted

**Resolution:** SR-3-NFPA 2001-2024

**Statement:** The revision makes an editorial correction to the definition.