

# NFPA 2001:2012

## Clean Agent Enclosure Integrity Test

Conducted by:

**ABC Fire and Safety, Inc.**

1234 Main Street  
Anytown, ST 12345

**123-456-7890**

**123-456-7891**

**WWW.ABCFIREnSAFETY.COM**

Tuesday, July 1, 2014 4:22 PM

XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))

# Enclosure Integrity Test Report

XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))

## General

---

Test Date **7/1/2014 4:22:21 PM**  
Tested by **Mark Weathersby**  
Job ID **XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))**

## Company

---

Name **XYZ On Line Services, Inc**  
Address **1234 Washinton Blvd.  
Any Town, OZ 00923**  
  
Contact **Mr. Jon Gates**  
Phone **123-456-7890**  
Fax **123-456-7899**  
E-mail **mail@xyzonlineservices.com**

## Location

---

Name **XYZ On Line SErVICES, Inc.**  
Address **890 Westpark Dr.  
Any Town, OZ 00926**  
  
Contact **Mr. Tom Berry**  
Phone **123-654-0987**  
Fax **123-654-0988**  
E-mail **computer@xyzonlineservices.com**

## Protected Zone

---

Name/Number **Computer Room, Number 107**  
Location **First Floor**  
Description **Computer and server room**

## High Hazard

---

Description **Server racks**  
Height **8 Feet**

# Enclosure Integrity Test Report

XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))

## General

---

Protected Volume	<b>18000.000</b>	<b>ft<sup>3</sup></b>
Maximum Protected Height	<b>12.000</b>	<b>Feet</b>
Minimum Protected Height	<b>8.000</b>	<b>Feet</b>
Temperature Inside Zone	<b>68.0</b>	<b>Fahrenheit</b>
Temperature Outside Zone	<b>68.0</b>	<b>Fahrenheit</b>
Static Pressure (test)	<b>0.000</b>	<b>Pascal</b>
Static Pressure (discharge)	<b>0.000</b>	<b>Pascal</b>

## Test Standard

---

Name	<b>NFPA 2001:2012</b>
Hold Time Condition	<b>Descending Interface</b>
Test Type	<b>Total Zone Leakage</b>

## Suppression Agent

---

Name	<b>FM-200 (HFC-227ea)</b>
Gas Design Concentration	<b>7.2 %</b>

Hold time calculations based on the design concentration of the suppression agent.

Maximum Allowable Leakage: **3.287 ft<sup>2</sup>**

## Depressurization

---

Target	<u>-10pa</u>	<u>-50pa</u>
Pressure	-10.0 Pascal	-50.0 Pascal
Flow	1300.00 ft <sup>3</sup> /min	2900.00 ft <sup>3</sup> /min
Leakage Area	2.654 ft <sup>2</sup>	2.648 ft <sup>2</sup>

## Pressurization

---

Target	<u>10pa</u>	<u>50pa</u>
Pressure	10.0 Pascal	50.0 Pascal
Flow	1300.00 ft <sup>3</sup> /min	2900.00 ft <sup>3</sup> /min
Leakage Area	2.654 ft <sup>2</sup>	2.648 ft <sup>2</sup>

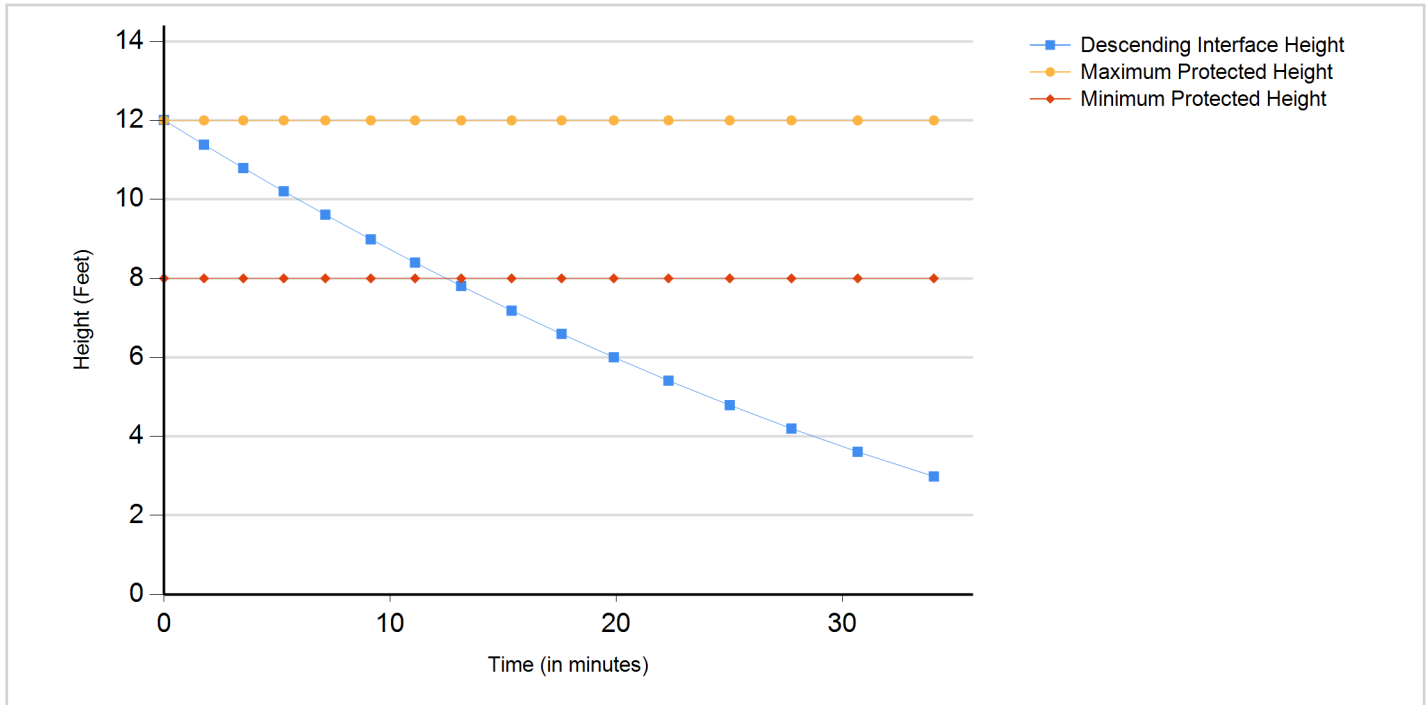
## NFPA 2001, 2012 edition, Annex C, Enclosure Integrity Procedure

---

Predicted Hold Time at 8 Feet	12.48 Minutes
Equivalent Leakage Area:	1.875 ft <sup>2</sup>

# Enclosure Integrity Test Report

XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))



<u>Height (Feet)</u>	<u>Time (minutes)</u>
12.008	0
11.385	1.77
10.794	3.51
10.203	5.3
9.613	7.14
8.99	9.15
8.399	11.11
7.808	13.15
7.185	15.38
6.594	17.59
6.004	19.9
5.413	22.32
4.79	25.03
4.199	27.76
3.609	30.69
2.986	34.06

# Enclosure Integrity Test Report

XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))

## Authority Having Jurisdiction

---

Name	Lt. Stan Carr
Contact	Inspector, Fire Prevention Division
Address	123 Main Street Any Town, 00928
Phone	123-456-9111
Fax	123-456-8766
E-mail	scarr@anytownfd.org

## Other Attendees

---

Name	Mr. Jon Gates
Title	Manage IT Services
Company	XYZ On Line Services

Name	Mr. Tom Barry
Title	Site manager
Company	XYZ On Line Services, Inc.

Name	Mr. Jerry Wolf
Title	President
Company	Wolf Contracting, Inc.

Name	
Title	
Company	

# Enclosure Integrity Test Report

XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))

## Pretest Checklist

---

Tanks disconnected:	Yes	HVAC system off:	Yes
Free return of air flow path:	Yes	Panel in discharge mode:	Yes
Outside air pressure tube connected:	Yes	Dampers activated:	Yes

## Comments

---

## Conditions

---

This test is a calculated prediction of the hold time and is based on the NFPA 2001:2012 Edition, Annex C, Enclosure Integrity Procedure and on the condition of the zone at the time of the test. This test was conducted in accordance with the NFPA procedure.

The software was produced by the Fire Safety Technology division of Worldwide Trade & Services, Inc. and is based on the equations and calculations as published in the above cited NFPA standard. The accuracy of the predicted hold time is totally the responsibility of the publisher of the standards, NFPA.

The Fire Safety Technology division nor Worldwide Trade & Services, Inc., assumes no responsibility or liability for the passage of a subsequent discharge test or from maintaining the concentration of the suppression gas for the predicted time in case of an actual fire emergency.

The sealing integrity of this zone must be maintained to assure the effectiveness of the fire suppression agent in case of an actual fire emergency. NFPA 2001:2012 Edition, Section 7.4 requires an annual inspection and possible retesting of this zone. Next inspection is due one year from the date of the test.

### Test conducted by:

---

Mark Weathersby

ABC Fire and Safety, Inc.

1234 Main Street  
Anytown, ST 12345

# Enclosure Integrity Test Report

XYZ On Line Services, Computer Room ((EIT Quick Test Intl Sample Test and Report))

## Leakage Survey

<u>Description</u>	<u>Response</u>	<u>Corrected</u>	<u>Comments</u>
Walls floor to deck?	Yes		
Walls caulked at floor?	Yes		
Walls caulked at deck?	Partially		Pockets on west wall to be sealed
Doors weather-stripped?	Yes		
Doors, drop seals?	Yes		Metal thresholds to be installed
Door closers installed and adjusted?	Yes		
Windows Caulked	None		
Exiting conduits sealed?	Reported Yes		
Exiting cables sealed?	Reported Yes		
Cable trays sealed?	None		
All holes, penetrations sealed?	Yes		
Floor drains trapped and filled?	None		
Dampers installed on all exiting ducts?	Reported Yes		
Dampers working and adjusted?	Reported Yes		
Block walls painted?	Not Applicable		
Ceiling tiles clipped?	Yes		
HVAC shut down?	Yes		
Gas exhaust dampered?	None		
Gas exhaust damper closed?			

### Note:

The above listed leakage areas were observed at the time of the enclosure integrity test and may or may not be all the leakage areas. Sealing of the listed leakage areas does not assure the passage of a subsequent enclosure integrity test. The above problem areas have been listed as an aid. It is the responsibility of the owner and/or his sealing contractor to thoroughly inspect and seal the zone. Please review the attached "Sealing of Rooms for Containment of Fire Suppression Agents" for additional guidance.

# ATTENTION

This room is protected with a clean agent gaseous fire extinguishing system.

To be effective in a fire emergency, the fire suppression agent must be retained in the room.

Upon installation of this system, all doors were equipped with automatic closers, weather stripping and floor seals; all cables and conduits leading in or out of the room were sealed (including those above the ceiling or under the raised floor); and all leaks or cracks were sealed. As required per NFPA 2001, 2012 edition, Annex C, Enclosure Integrity Procedure to assure it was properly sealed to retain the fire suppression agent.

For the safety of the occupants and equipment in this room:

1. Doors must not be blocked open.
2. All weather stripping and seals must be maintained in good operating condition
3. Any new cables or conduits leading in or out of the room must be caulked and sealed.
4. Any holes or penetrations through the walls must be repaired and sealed.

To assure the sealing integrity of this room, NFPA 2001, 2012 edition, Section 7.4 requires an annual inspection and possible retesting of this room. Next inspection due one year from Test Date.

## Test Results:

---

Test Date	<b>7/1/2014 4:22:21 PM</b>
Minimum Protected Height	<b>8.000 Feet</b>
Hold Time:	<b>12.48 Minutes</b>

For more information or to schedule an inspection contact:

### **ABC Fire and Safety, Inc.**

1234 Main Street  
Anytown, ST 12345

Phone	<b>123-456-7890</b>
Fax	<b>123-456-7891</b>
E-mail	
Website	<b>WWW.ABCFIREnSAFETY.COM</b>