

**PEMALL
USA**



WE PROVIDE SOLUTIONS!



**PEMALL
227**

**CLEAN AGENT
FIRE
SUPPRESSION
SYSTEM**



WWW.PEMALLUSA.COM



INTRODUCTION

The PEMALL logo features the word "PEMALL" in a bold, white, sans-serif font with a red triangle pointing upwards at the top of the letter 'A'. The logo is set against a white rectangular background.

Since the establishment of Pem System, Inc. in the year 1947, we have been trusted and committed manufacturers of fire safety systems aimed to protect human lives.

Firmly rooted for seven decades in the fire protection industry, our commitment to thrive in the areas of Research and Development led Pem System, Inc. to its acquisition by an International Company in 2010. Our innovative advancement in providing best fire protection solutions in the market gained esteemed recognition as the world's leading independent manufacturer in the field of fire protection industries.

The PEMALL USA logo features the words "PEMALL" and "USA" in a bold, blue, sans-serif font. A white star is positioned to the right of the letter 'A' in "USA". To the right of the text are five horizontal red bars, resembling the stripes of the American flag. The logo is set against a white rectangular background.

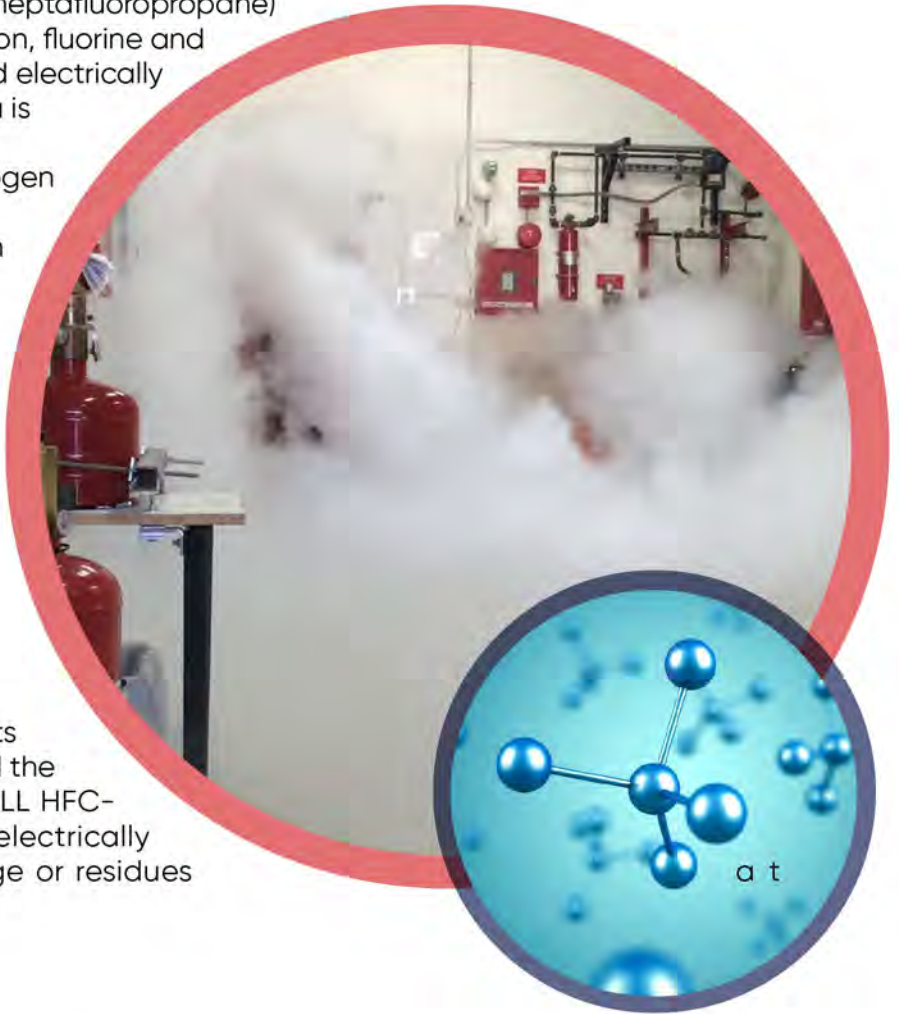
Today, after years of relentless hard work and drive, we launch our new trademark as "PEMALL USA", our latest innovation of superb clean agents and fire suppression systems. With the numerous fire suppression options in the market, PEMALL USA stands out among them by providing both quality and sustainable products that are ideal for your facility, business, critical assets and people.

PEMALL USA continues to develop state-of-the-art facility that produces high-quality fire suppression systems catered to meet our customers' unique needs, as well as sustaining specialization in manufacturing Clean Agents and System Components that is proven to have reliable product quality. Our products carry various international approvals such as Underwriters Laboratories (UL) listings, Factory Mutual (FM) Approval, GOST (Russian) Approvals and various European certifications or approvals to CE and TPED, which ascertain PEMALL USA's highest quality in products and systems. Each type of fire suppression solution has its own inherent benefits. We provide one-stop complete system solution where our customers can acquire products and services essential to their fire protection needs.

APPROVALS & CERTIFICATIONS



PEMALL HFC-227ea - ($\text{CF}_3\text{CHFCF}_3$ - heptafluoropropane) is a compound that consists of carbon, fluorine and hydrogen. It is colorless, odorless and electrically non-conductive. PEMALL HFC-227ea is stored as a liquid in stainless-steel containers and pressurized with nitrogen to 360 psi & 500 psi to increase its discharge flow characteristics. When discharged, PEMALL HFC-227ea will suppress via discharge nozzles and effectively mix with the air throughout the protected area, perfectly suited to protect high value assets in areas that may be normally occupied, in locations where clean-up of other agents is difficult. Its ASHRAE nomenclature the way it is designated in the NFPA 2001 clean agent is HFC 227ea. HFC 227ea has a gas pressure of 3.91 bar at 20°C, that positively affects a fast evaporation at the nozzle and the fast distribution in the room. PEMALL HFC-227ea is neither corrosive nor electrically conductive and causes no damage or residues sensitive electronic components.



PHYSICAL & CHEMICAL CHARACTERISTICS

Chemical Name	Heptafluoropropane ($\text{CF}_3\text{CHFCF}_3$)
General	Colorless, Odorless Liquefied Gas
Molecular Weight	170.03
Boiling Point	-16.4 °C / 2.48°F
Freezing Point	-131°C / -203.8°F
Vapor Pressure @ 21°C/70°F	58.8 psia
Critical Temperature	101.7°C / 215.1 °F
Critical Pressure (PSI)	422.3 PSI
Vapor Density (AIR=1)	6.04
Water Reactive	No
Specific Gravity (H2O=1)	1.46
Percent Volatile (by volume)	n/a
Water Solubility (V/V @ 20°C / 68°F)	280 mg/L
Estimated Atmospheric Lifetime (years)	31-42

Why PEMALL 227?

01

PEMALL 227™ System extinguishing system knock downs fire with PEMALL HFC-227ea extinguishant that offers optimal fire protection and is particularly suitable for electrical and electronic risks. The system consists of wide range Stainless Steel cylinders.

02

The PEMALL HFC-227ea System is residue free operating extinguishant HFC-227ea has a high extinguishing effectiveness and environmental compatibility (Global Warming Potential GWP = 3500, Ozone Depletion potential ODP = 0). Further advantages are its high personal safety and the small storage volume.

03

PEMALL 227™ System is Pressurized with nitrogen on the intended system pressure of 360 psi , or 500 psi in order to assure a complete and effective flooding of a protected room.

AVAILABLE IN

**360 PSI (25 BAR)
&
500 PSI (34.5 BAR)
SYSTEMS**



PEMALL HFC-227ea has a gas pressure of 3.91 bar at 20°C, that positively affects a fast evaporation at the nozzle and the fast distribution in the room. PEMALL HFC-227ea is neither corrosive nor electrical conductive and causes no damage or residues at sensitive electronic components. It is colorless and almost odorless and a gas at ambient temperature.

It absorbs the heat of the flame and interrupts thereby the combustion reaction. So, the extinguishing effect is caused for the most part physically and for a small part by chemical reaction.

PEMALL 227™ system with PEMALL HFC 227ea extinguishing systems for total flooding of clearly zoned areas and is suitable for Class A, B & C fires. It knocks down with optimal fire protection and particularly suitable for electrical and electronic risks.

PEMALL 227™ extinguishes fires primarily by physically cooling the flame; removing heat from the flame to the extent that the combustion reaction cannot sustain itself.

PEMALL cylinders comprise of fully integrated stainless steel cylinders and accessories. We offer different sizes of Stainless Steel Cylinder ranging from 25 lb, 40 lb, 75 lb, 105 lb, 155 lb, 255 lb, 380 lb, 565 lb and 665 lb, 850lb, 1100 lb & 1250 lb. Our cylinders are UL Component recognized, providing our customers assurance of high quality products to maximize the potential of the Clean Agent.

LOW PRESSURE (LP) SERIES CYLINDER ASSEMBLY FOR 360 PSI (25 BAR) SYSTEM

SYSTEM TEMPERATURE: 32°F (0°C) TO 130°F (54.4°C)

HIGH PRESSURE (HP) SERIES CYLINDER ASSEMBLY FOR 500 PSI (34.5 BAR) SYSTEM

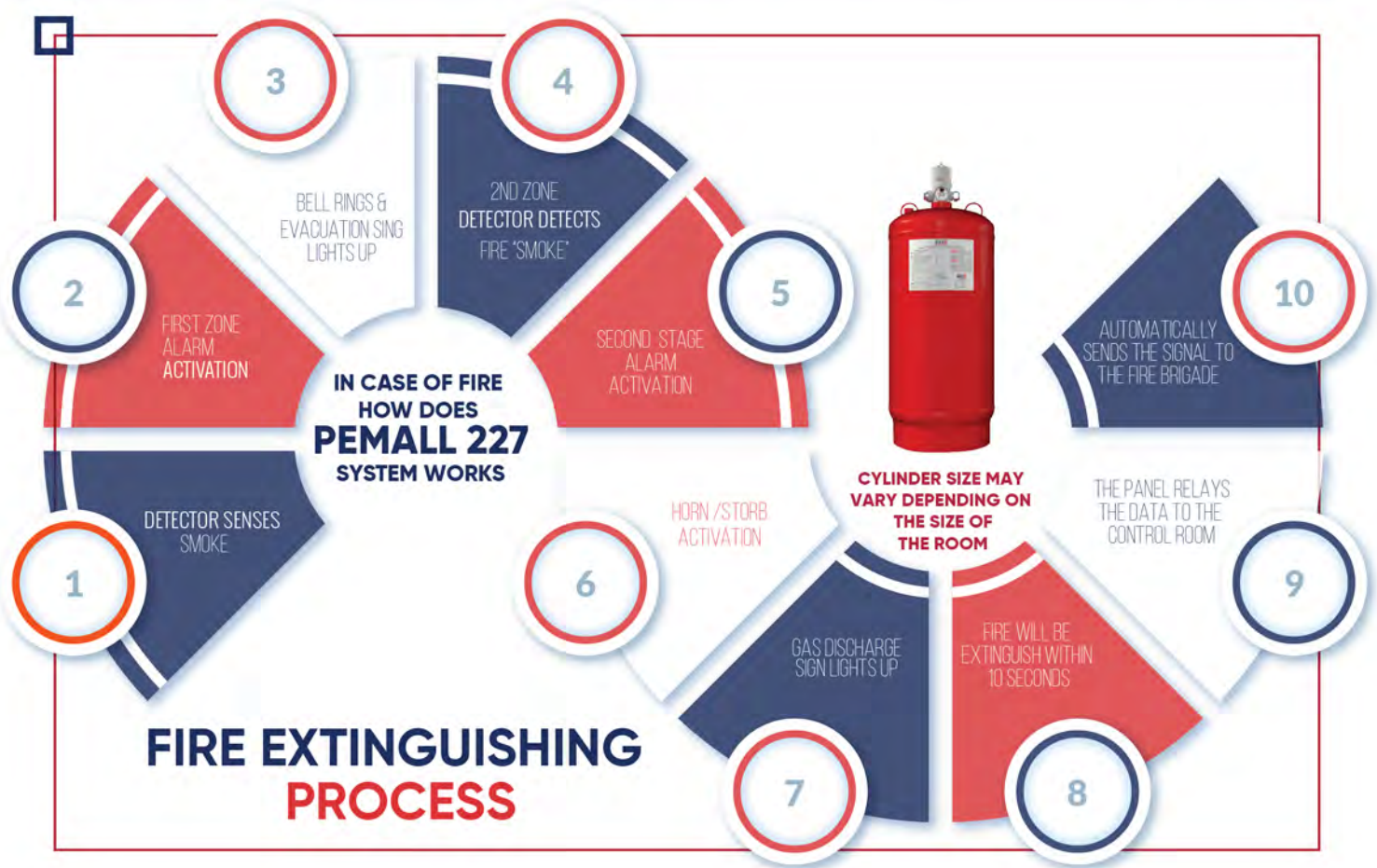
SYSTEM TEMPERATURE: 32°F (0°C) TO 122 (50.0°C)

Assembly Model Number	Cylinder Size	Max Fill at 70 lb/ft ³	Min Fill at 30 lb/ft ³	Max Fill at 65.74 lb/ft ³	Min Fill at 30 lb/ft ³
HX-SS*-0025-1.0	25 LB	20 LB	9 LB	19 LB	9 LB
HX-SS*-0040-1.0	40 LB	36 LB	16 LB	33 LB	16 LB
HX-SS*-0075-1.0	75 LB	71 LB	31 LB	67 LB	31 LB
HX-SS*-0105-1.0	105 LB	100 LB	44 LB	94 LB	44 LB
HX-SS*-0155-1.5	155 LB	152 LB	66 LB	143 LB	66 LB
HX-SS*-0255-1.5	255 LB	253 LB	109 LB	238 LB	109 LB
HX-SS*-0380-2.5	380 LB	379 LB	163 LB	356 LB	163 LB
HX-SS*-0565-2.5	565 LB	561 LB	241 LB	527 LB	241 LB
HX-SS-0665-2.5	665 LB	665 LB	285 LB	624 LB	285 LB
HX-SS-0850-3.0	850 LB	840 LB	360 LB	788 LB	360 LB
HX-SS-1100-3.0	1100 LB	1038 LB	445 LB	975 LB	445 LB
HX-SS-1250-4.0	1250 LB	1211 LB	519 LB	1137 LB	519 LB

Where X - 3 for LP Series
5 for HP Series

Components And Their Associated Accessories:

- ▣ Cylinder Assembly
- ▣ Actuation Units
- ▣ Supervisory Switches
- ▣ Manifold Accessiores.
- ▣ Distribution Nozzles
- ▣ Initiation Switches
- ▣ Instructional Signs
- ▣ Detection And Control



COMMON APPLICATIONS



MUSEUMS



CONTROL ROOMS



COMPUTER ROOMS



AIRPORTS



OIL & GAS REFINERY



MARINE VESSELS



DATA CENTERS



LIBRARIES



GLOBAL NETWORK

UNITED STATES OF AMERICA



UNITED ARAB EMIRATES



PEMALL USA – HEAD QUARTER

650 Northeast Holladay Street,
Lloyd District, Suite 1600, Portland,
Oregon, 97232 USA
Tel. No.: +1-503-444-3852
Email: sales@pemallusa.com



PEMALL INTL FIRE SYSTEMS LTD

Office 160D, Building #280, Taweelah – ADFZ
54477- UNITED ARAB EMIRATES
sales-intl@pemallusa.com



WWW.PEMALLUSA.COM