SAFESPILL SYSTEMS

SFPE
Engineering A Fire Safe World

Safespill Systems/ FM Global New 6090 Standard - Safety Fire Protection Chapter Presentation

Safespill IBC Storage Unit 275 gal Kerosene Fire Test (Double click to view video)

SAFESPILL SYSTEMS

Links to our Product Data Sheets

(Control + Click to follow link to Product Data Sheet)

High Flow Systems

High Flow System

Product Datasheet

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High Flow System shown with IBC Storage Unit

SYSTEM DESCRIPTION

The High Flow System is a modular flooring system designed to contain and remove spilled flammable or hazardous liquid chemicals. When a spill occurs, the liquid will drain into hollow floor profiles through specially machined drain holes in the top surface of the floor. By draining the liquid away from the top surface, the possibility of liquid pool formation is eliminated. Once liquid is inside the floor profiles an internal flushing system will push the liquid towards the integrated trench drains, where it is then pumped to external containment.

PRODUCT FEATURES

- Flushing and Suction system within flooring
- Installs directly onto existing substrate (level or sloped)
- Ramped and rated for weight of a forklift, tanker truck, etc.
- System footprint can be customized based on application
- Fully automated activation through liquid detection

PRICING

Pricing starts at $250/sqft for systems ≥ 500 sqft, including installation. Custom engineered applications of < 500 sqft typically start at $100,000. Factors for pricing are: nickel plating protection, pumps and controls, and installation location.

BENEFITS

- Eliminates the risk of pool fires
- Minimizes operational downtime in event of a spill
- Quick installation in existing facilities
- No need to cut concrete for drainage

TYPICAL APPLICATIONS

- Tanker transfer station
- Print press areas
- Liquid bulk storage
- Custom engineered applications designed for spill scenarios of max 800 gpm

SPECIFICATIONS

Floor Height	4 in / 100mm
Floor Load Capacity	200 psi / 1.38 MPa
Max Single Floor Section Size	30 ft x 25 ft x 4 in / 9 m x 7.5 m x 100 mm
System Finishes	Uncoated 6005 T5 Aluminum or nickel plated for aggressive chemicals
Drainage Capacity	Up to 800 gpm / 3,000 lpm per section
Liquid Detection	Fiber Optic sensors
Flushing System Water Demand	100 gpm @ 40 psi / 375 lpm @ 2.75 Bar
Pumps per section	Up to 8 – 2" air operated diaphragm or electric centrifugal pumps
Flushing Water Supply & Suction Connections	1" pipe connection for flushing 4" pipe connection for suction

Medium Flow Systems

Medium Flow System

Product Datasheet

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Nickel plated Medium Flow System

BENEFITS

- Eliminates the risk of pool fires
- Minimizes operational downtime in event of a spill
- Quick installation in existing facilities
- No need to cut concrete for drainage

SYSTEM DESCRIPTION

The Medium Flow System is a modular flooring system designed to contain and remove spilled flammable or hazardous liquid chemicals. When a spill occurs, the liquid will drain into hollow floor profiles through specially machined drain holes in the top surface of the floor. By draining the liquid away from the top surface, the possibility of liquid pool formation is eliminated. Once liquid is inside the floor profiles an internal flushing system will push the liquid towards the suction manifolds, where it is then pumped to external containment.

PRODUCT FEATURES

- Flushing and Suction system within flooring
- Installs directly onto existing substrate (level or sloped)
- Ramped and rated for weight of a forklift, tanker truck, etc.
- System footprint can be customized based on application
- Fully automated activation through liquid detection

PRICING

Pricing starts at $250/sqft for systems ≥ 500 sqft, including installation. Custom engineered applications of < 500 sqft typically start at $100,000. Factors for pricing are: nickel plating protection, pumps and controls, and installation location.

TYPICAL APPLICATIONS

- Filling line stations
- Pump and valve stations
- Mixing and dispensing stations
- Custom engineered applications designed for spill scenarios of max 120 gpm

SPECIFICATIONS

Floor Height	2 in / 50mm
Floor Load Capacity	200 psi / 1.38 MPa
Max Single Floor Section Size	10 ft x 20 ft x 2 in / 3 m x 6 m x 50 mm
System Finishes	Uncoated 6005 T5 Aluminum or nickel plated for aggressive chemicals
Drainage Capacity	Up to 120 gpm / 456 lpm per section
Liquid Detection	Fiber Optic sensors
Flushing System Water Demand	15 gpm @ 10 psi / 57 lpm @ 0.7 Bar
Pumps per section	Up to 2 – 2" air operated diaphragm pumps
Flushing Water Supply & Suction Line Connections	1.25" pipe connections
Approvals	FM approved at Standard 6090

IBC Storage Unit

IBC Storage Unit

For High Flash Point Liquids

Product Datasheet

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BENEFITS

- Eliminates the need for permanent cutoff rooms for plastic IBC's
- Enables high flash point liquids to be stored safely in plastic IBC's
- Unit can be installed quickly and strategically placed to minimize transport distances to point of use

PRODUCT FEATURES

- The unit is based on Safespill's High Flow Flooring System
- Allows 18 IBC's (275gal) to be stored stacked 3x2x3 (WxDxH)
- Deluge sprinkler system activated by heat detection
- Liquid detection for spilled liquid removal, in the case of a spill without a fire
- The unit is chemically compatible with all hydrocarbons, alcohols and solvents (Nickel plating is offered for aggressive acids and caustics)

CONNECTION POINTS

The water supply connection for the deluge sprinkler, floor flushing system, and the discharge piping connection are located at the left rear corner of the unit and can be supplied with a thread, flanged or grooved fitting.

SPECIFICATIONS

Overall Dimensions (LxWxH)	25 ft x 15 ft x 14 ft (7.6m x 4.7m x 4.4m)
System Footprint	385 ft² / 36 m²
Product Storage Capacity	18 - 275 gal IBC's
Drainage Capacity	630 GPM / 2400 LPM
Floor Load Capacity	200 psi / 1.38MPa
Water Supply Connection	3" pipe connection
Flushing System Water Demand	80 GPM @ 35 psi
Sprinkler Water Demand	400 GPM @ 100 psi / 1700 LPM @ 6.9 Bar
Discharge Pumps	8 - 3hp self-priming centrifugal pumps 1 - 4" connection
Power Demand	32 Amps @ 480 V / 3 phase
Price	Starting at $160,000 including installation

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Presentation Agenda

- Safespill Systems and presenter introduction
- Industry problems - flammable liquid pool fires
- Safespill systems’ solution
- Fire test videos
- How does the system work
- FM Global approval
- IBC Storage Unit discussion
- Future products and timeline
- Q&A

SAFESPILL SYSTEMS

Tristan Mackintosh - CEO

Before founding Safespill Systems, Tristan ran business development for Bayards USA, one of the world's top aluminum construction companies. Tristan was responsible for developing the market for "helidecks" (helicopter decks) for oil and gas platforms, in the Gulf of Mexico from 2010 to 2013.

While dealing with fire protection suppliers for these helidecks, he learned that similar fire protection systems are used in aircraft hangers. He also learned that these foam based systems could go off by accident and create havoc to the aircrafts inside hangers. From experience, he knew aluminum can be strong enough to take the weight of a parked aircraft but still be hollow to drain spilled jet fuel.

After building a prototype in his garage and burning up several prototypes at a local fire field, he presented the concept to Fire Protection Engineers of the US Navy (NAVFAC) as a potential solution to replace high expansion AFFF systems in aircraft hangers. Based off the excitement of the US Navy Safespill Systems was founded. After realizing the military was not the shortest route to revenue; the company shifted focus on industrial and chemical facilities. Inevitably questions like, "What's FM Global thought of the system", or, "Is it FM approved", came up. After showing several fire tests to FM Global; a relationship was built. Which then lead to FM Global creating a new FM Approval Standard "Ignitable Liquid Drainage Floor assembly 6090" in May 2017.

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