



2023 EMEA CATALOG




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We are

Subzero Engineering

Subzero Engineering is the industry leader in bespoke infrastructure solutions.



Subzero ensures a superior customer experience by applying unique product designs, quick turnaround engineering, and in-house installation teams.

Founded in 2005 by Larry Mainers and Vince Lake, Subzero started out as a data center airflow consulting company utilizing CFD studies to provide layout and design recommendations. The next decade would see them develop and release numerous industry changing products that would define how data center containment could and would be done.

Our Sales Engineers will be working closely with your Data Center Solutions Manager to ensure a successful and enjoyable experience. All products have been built to scale inside of SolidWorks, which allows for quick turnaround on mechanical drawings. A typical proposal and drawing set can be provided in as little as 24 hours, and never more than 72.

From its inception, Subzero's offerings have always been about three things:

CUSTOMIZATION

Data centers are varied and dynamic, the solutions that go inside them should be too. Subzero's entire line of products are all completely customizable allowing the ability to quickly design, ship, and install.

QUALITY

A culture of best-in-class has been a part of Subzero from the beginning. From the raw materials used, to the components sourced, this self-imposed standard ensures that a great design becomes an even greater product.

FIT AND FINISH

Flexibility and quality are important, but it needs to look good too. High precision machining combined with thoughtfulness in design guarantees a great looking product. Highly trained and experienced site service teams ensure each project is deployed to meet the quality standards above.

Thanks for taking the time to consider us, and we look forward to working with you.



Products

AisleFrame

Polar Roof

Elite Series Aisle End Doors

Rack Hat & Strip Doors

Wall Panels

Polar Booth



Services

CFD Engineering

Containment Installation

Products

Containment

AisleFrame



AisleFrame

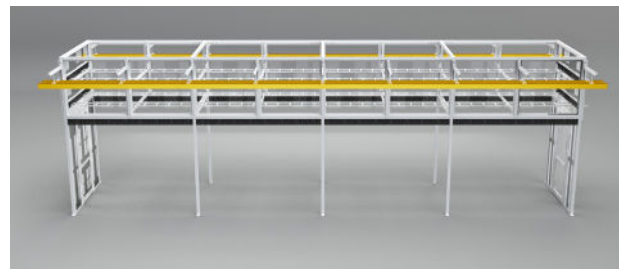
The Scalable Containment System to Support Data Center Infrastructure

AisleFrame by Subzero takes a simplistic approach to a typically complex design. The flexible Super Structure is designed to provide a complete solution for aisle containment. In addition, it provides a floor-supported structure that serves as a support platform for cable tray, busway, etc.

Elegance through Simplicity

Traditional methods for supporting data center infrastructure such as aisle containment, power distribution, and cable routing are costly and time consuming. These methods require a structural ceiling and a building that can support the entire weight of it. This typically involves multiple trades working on the project to accomplish just the supporting of the ceiling which costs time and money.

AisleFrame provides a 'floor-supported' method for providing infrastructure support and aisle containment. It can be erected quickly, and be placed in a building that does not have the expensive structural ceiling. This allows mission-critical facilities to build and scale data centers quickly and efficiently



KEY FEATURES

- Simplicity of Design
- Quick Installation
- Completely Custom
- High Loading Capacity
- Quality Containment Inc.

PRODUCT SPECIFICATIONS

Frame

PHYSICAL PROPERTIES

Property:	Material:	Result:
Structural Frame	Mild Steel	3.00" x 3.00" Tube w/.25" Wall

ADDITIONAL COMPONENTS

Strut Arms	Mild Steel	Unistrut - P2580 - High Capacity
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FEATURES

Painted	Structural components are painted as per request.
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Side Containment Panels - 4mm Twin Wall Polycarbonate

FLAMMABILITY

Property:	Material:	Result:
Flame Spread	ASTM E84	5
Smoke Developed	ASTM E84	40

PHYSICAL PROPERTIES

Thickness:	4mm (.15)
R-Value:	1.45t
Light Transmittance:	94%

Products

Containment

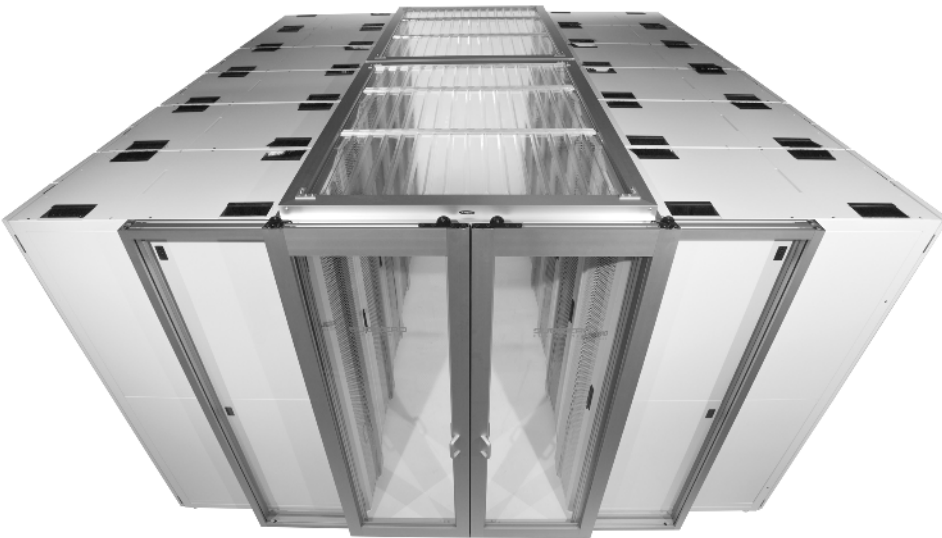
Roof Systems

Polar Roof

The Subzero Engineering Polar Roof is uniquely designed to work under fire suppression systems by utilizing specially designed translucent panels.

In the event of a fire, the panels shrink and drop away to preserve the fire sprinkler pattern. The lightweight drop-in panels have a thickness of only 0.013" and are completely clear, allowing in the light from overhead lighting systems. The panels can be easily customized according to specific length and width.

As the Polar Roof containment system is modular in design, it can be easily attached to cabinets, doors, side wall systems, and even vinyl.



KEY FEATURES



Stock Sizes



Light Weight



Clear Panels



Modular Design



Install Kit



Fire Rated



Drop Panels

OPTIONS



Clear or Black Finish

PRODUCT SPECIFICATIONS

Frame

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

FEATURES

Typical size of 55.50" W x 79.50" L
Frame attaches to top of server cabinets

Clear Panels

PHYSICAL PROPERTIES

Property:	Units:	Result:
Thickness	Mils	15 Mil
Material	-	Polyvinyl Chloride
Light Transmittance	-	87.67%

FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	170
Flame Spread	ASTM E84	20

Shipping

PHYSICAL PROPERTIES

Property:	Result:
Weight	25-50 lbs. Approx.
Components	5 Major Components

Products

Containment

Elite Aisle End Doors



Elite Series LP Single Sliding Door

Elite Series LP Doors are the most advanced and durable doors that Subzero has produced to date. They have the rigid design that is inherent of Elite Series Products, and advanced features that have taken years to develop. They feature smooth operation, adjustable closing and dampening speeds, and durability. Implement these doors when nothing but the best will do.

KEY FEATURES



Custom Sizes



Rigid Design



Clear Panels



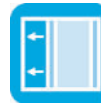
No Threshold



Smooth Actuation



Self Supporting



Auto Door Closer



Soft Closing

OPTIONS



Clear or Black Finish



Left or Right Hand Open



Custom Logo

PRODUCT SPECIFICATIONS

Doors & Frame

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

Panel Inserts - Optional

3MM – ACRYLIC

FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	385
Flame Spread	ASTM E84	140
Horizontal Burn	ASTM D635	1.18 in./min
UL Horizontal	UL94	94 HB

4MM – POLYCARBONATE

FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	40
Flame Spread	ASTM E84	5

3MM – FM4910

FLAMMABILITY

Property:	Test:	Result:
—	UL94	V0
—	FM4910	Yes

Shipping

PHYSICAL PROPERTIES

Property:	Result:
Weight	200 lbs. Approx.
Components	6 Major Components

Products

Containment

Elite Aisle End Doors



Elite Series LP Dual Sliding Door

Elite Series LP Doors are the most advanced and durable doors that Subzero has produced to date. They have the rigid design that is inherent of Elite Series Products, and advanced features that have taken years to develop. They feature smooth operation, adjustable closing and dampening speeds, and durability. Implement these doors when nothing but the best will do.

KEY FEATURES



Custom Sizes



Rigid Design



Clear Panels



No Threshold



Smooth Actuation



Self Supporting



Auto Door Closer



Soft Closing

OPTIONS



Clear or Black Finish



Custom Logo

PRODUCT SPECIFICATIONS

Doors & Frame

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

Panel Inserts - Optional

3MM – ACRYLIC FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	385
Flame Spread	ASTM E84	140
Horizontal Burn	ASTM D635	1.18 in/min
UL Horizontal	UL94	94 HB

4MM – POLYCARBONATE FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	40
Flame Spread	ASTM E84	5

3MM – FM4910 FLAMMABILITY

Property:	Test:	Result:
—	UL94	V0
—	FM4910	Yes

Shipping

PHYSICAL PROPERTIES

Property:	Result:
Weight	275 lbs. Approx.
Components	7 Major Components

Products

Containment

Elite Aisle End Doors



Elite Series LP Hinged Door

Elite Series LP Doors are the most advanced and durable doors that Subzero has produced to date. They have the rigid design that is inherent of Elite Series Products, and advanced features that have taken years to develop. They feature smooth operation, adjustable closing and dampening speeds, and durability. Implement these doors when nothing but the best will do.

KEY FEATURES



Custom Sizes



Rigid Design



Clear Panels



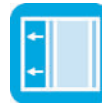
No Threshold



Smooth Actuation



Self Supporting



Auto Door Closer



Soft Closing

OPTIONS



Clear or Black Finish



Left or Right Hand Open



Custom Logo

PRODUCT SPECIFICATIONS

Door & Frame

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

Panel Inserts - Optional

3MM – ACRYLIC FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	385
Flame Spread	ASTM E84	140
Horizontal Burn	ASTM D635	1.18 in/min
UL Horizontal	UL94	94 HB

4MM – POLYCARBONATE FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	40
Flame Spread	ASTM E84	5

3MM – FM4910 FLAMMABILITY

Property:	Test:	Result:
—	UL94	V0
—	FM4910	Yes

Shipping

PHYSICAL PROPERTIES

Property:	Result:
Weight	250 lbs. Approx.
Components	4 Major Components

Products

Containment

Curtain

Rack Hat

The Subzero Engineering Rack Hat is the premium vinyl containment system that separates hot and cold airflow by using ceiling mounted vinyl panels. Aluminum tracks are mounted to the ceiling, and uniquely sized vinyl is hung from the track. The fire resistant vinyl comes in these standard drop down sizes: 26", 52", 94", 106", 118", 142", and 178". The aluminum track comes in these standard lengths: 1', 2', 3', 4', 5', and 6'. The Rack Hat corner system provides a seamless corner for optimum efficiency within the containment. The Rack Hat's modular and easy-to-assemble kit-based design makes it the industry's best, low-cost containment solution.



KEY FEATURES



Modular Design



Overlapping Vinyl



No Tools Required



360° Ceiling Grid Attachment



Install Kit



Fire Rated Vinyl & Links

OPTIONS



Corner Kit

PRODUCT SPECIFICATIONS

Track

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

Fire Suppression Link

PHYSICAL PROPERTIES

Property:	Units:	Result:
Heat Activation	Degrees F.	135°
Maximum Load	Lbs.	45
Minimum Load	Lbs.	3

Vinyl

FLAMMABILITY

Property:	Test:	Result:
NFPA	NFPA 701	Passed
Flammability	UL 94 V-0	Passed
Flammability	ASTM E84	Class A

Weights Per Linear Foot

Drop Down Length:	Weight:
29"	1.75 lbs.
56"	2.25 lbs.
98"	3.25 lbs.
110"	3.5 lbs.

Shipping

PHYSICAL PROPERTIES

Property:	Result:
Ships as a packaged kit	
Components	5 Major Components

Products

Containment

Curtain

Strip Door

Our Strip Door system is the leading ceiling mounted strip door solution for both cold and hot aisle containment. It fully separates cold supply and hot exhaust airflow by closing the end of the aisle, ensuring a long lasting vertical partition solution. The Strip Door kit includes a high-grade aluminum track, UL/FM rated fire suppression links, and fire resistant vinyl. The door is custom fit to your aisle ends, and it can be installed on a drop-ceiling grid, or be hung onto any stationary ceiling system such as cable trays, U-Channel, or directly into a variety of ceiling materials. Our Strip Door system can be used in a variety of applications to create partitions while allowing access. The Strip Door can attach to the ceiling on the same aluminum track system as the Rack Hat partition system. Components slide together easily, securely, and can quickly be reconfigured. The fire resistant clear vinyl hangs down from ceiling to floor.



KEY FEATURES



Modular Design



Overlapping Vinyl



No Tools Required



360° Ceiling Grid Attachment



Install Kit



Fire Rated Vinyl & Links

OPTIONS



Corner Kit

PRODUCT SPECIFICATIONS

Track

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

Fire Suppression Link

PHYSICAL PROPERTIES

Property:	Units:	Result:
Heat Activation	Degrees F.	135°
Maximum Load	Lbs.	45
Minimum Load	Lbs.	3

Vinyl

FLAMMABILITY

Property:	Test:	Result:
NFPA	NFPA 701	Passed
Flammability	UL 94 V-0	Passed
Flammability	ASTM E84	Class A

Weights Per Linear Foot

Drop Down Length:	Weight:
29"	1.75 lbs.
56"	2.25 lbs.
98"	3.25 lbs.
110"	3.5 lbs.

Shipping

PHYSICAL PROPERTIES

Property:	Result:
Ships as a packaged kit	
Components	5 Major Components

Products

Containment

Wall Panels

Wall Panels

Missing cabinets, uneven aisle ends, and cityscape cabinet heights present a challenge to many containment designs. Subzero Engineering Wall Panels easily fill in any size of gap to create a continuous containment solution.

Elite Series Panel Frames are 1.5" x 1.5".

SL Series Panel Frames are 1.5"x .75".



PRODUCT SPECIFICATIONS

Frame

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

Panel Inserts - Optional

3MM – ACRYLIC

FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	385
Flame Spread	ASTM E84	140
Horizontal Burn	ASTM D635	1.18 in/min
UL Horizontal	UL94	94 HB

4MM – POLYCARBONATE

FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	40
Flame Spread	ASTM E84	5

3MM – FM4910

FLAMMABILITY

Property:	Test:	Result:
—	UL94	V0
—	FM4910	Yes

Shipping

PHYSICAL PROPERTIES

Property:	Result:
Weight	10-17 lbs. Approx.
Components	1 Major Component

KEY FEATURES



Custom Sizes



Rigid Design



Clear Panels



Install Kit

OPTIONS



Clear or Black
Finish



Over Rack or
Floor Mounted

Products

Containment

Polar Booth

Polar Booth

Many data centers have isolated cabinets that are not part of a hot or cold aisle. The Subzero Engineering Polar Booth fully completes the separation of supply and return airflow by addressing isolated equipment. This portable booth can be used for cold or hot aisle applications to ensure complete separation of exhaust and supply air on stand alone IT equipment.

A common problem many data center managers encounter is supplying cold air to equipment that is not in a rack row or aisle. Perforated tiles located in front of isolated equipment only cool the bottom half of the cabinet; the remainder of the cabinet is cooled by the ambient airflow. As a result, the supply air temperature is set considerably colder than necessary to cool the ambient air. The Polar Booth contains the supply air to the equipment intake and ensures both a uniform and predictable temperature to all isolated IT equipment.

The Polar Booth can be used to either contain cold supply air or direct hot exhaust air away, making it a perfect solution for equipment that is not in a dedicated hot or cold aisle configuration.



KEY FEATURES



Custom Sizes



Rigid Design



Clear Panels



Moves
& Positions
Easily

OPTIONS



Clear or Black
Finish

PRODUCT SPECIFICATIONS

Frame

PHYSICAL PROPERTIES

Property:	Material:	Result:
Tensile Strength	Aluminum	22,000 psi

FEATURES

Rolls easily on casters

Panel Inserts - Optional

3MM – ACRYLIC FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	385
Flame Spread	ASTM E84	140
Horizontal Burn	ASTM D635	1.18 in/min
UL Horizontal	UL94	94 HB

4MM – POLYCARBONATE FLAMMABILITY

Property:	Test:	Result:
Smoke Dev.	ASTM E84	40
Flame Spread	ASTM E84	5

3MM – FM4910 FLAMMABILITY

Property:	Test:	Result:
—	UL94	V0
—	FM4910	Yes

Computational Fluid Dynamics (CFD)

Subzero Engineering offers Computational Fluid Dynamics (CFD) services from accredited CDCDP, DCEP professionals, thus providing a comprehensive approach to modeling airflow, temperature, and an accurate energy profile of a data center.

Through state-of-the-art software, we construct a 3D layout of your data center. This layout models the hot and cold airflow within your facility as well as the impact of load distribution. There are two basic categories of data to collect; facility and rack. We fully inventory all equipment in the data center noting make, model, and heat load. This allows Subzero's engineering team to develop a baseline from which improvements can be measured and potential savings calculated. The engineers that perform the CFD services for Subzero have CDCDP (Certified Data Center Design Professional) and DCEP (Data Center Energy Practitioner) accreditation.



Services



Installation

Subzero Engineering has a trained team of professional, expert installers.

Our team has the experience to safely work with our products in your critical data center environment. We provide custom fabrication. All of our vinyl curtains are tailored to meet the exact height of each rack in your data center. Obstacles such as cable trays, conduit, and sprinkler lines are no problem for our installers. There's no substitute for experience. We will complete your job safely and quickly. Using our installation team increases the product warranty to two years!



— A SENNECA COMPANY —

Call Today
+353 (0)1 4438844

Or Visit
www.subzeroeng.com

World Headquarters
805 South 3600 West
Suite 100
Salt Lake City, UT 84104

Europe Headquarters
5 Heaney Avenue
Park West Industrial Estate
Dublin 12