



AirBlock Data Center Curtains:

- Maximize Cooling Efficiency
- Increase Data Center Capacity
- Insure System Stability
- Save Energy Dollars



Heat is your enemy in the data center. Hot aisle/cold aisle containment is acknowledged as the most effective and inexpensive way to redirect air flow and lower temperatures. The result is greater computing capacity in your data center, stable, crash-free systems, and the savings of thousands of dollars in excess energy.

Since 1979 Simplex Isolation Systems has been a leader in the business of isolation control and air handling. We are known for innovation and product development. Many of our materials are based on proprietary formulas. We have also developed unique hardware solutions for the data center. It is no wonder that our AirBlock line of data center products offers the best in hot aisle/cold aisle isolation.

AirBlock Data Center Curtains from Simplex were developed with a singular goal--to provide the finest quality products for achieving effective hot aisle/cold aisle isolation in the data center. We achieved this by setting new standards: AirBlock is engineered for performance in the data center. Our modular design allows for easily installation, easy expansion and adherence to all fire and safety standards.

Choose from options that include vinyls with ESD resistance and those that are free from out-gassing. AirBlock's selection of mounting systems offer you solutions to the challenges of existing infrastructure in the legacy data center, and also limitless options for new installations.

Finally, our systems are engineered to help you maintain compliance with local fire codes. AirBlock data center curtains are tested to NFPA and ASTM E-84 Class 1 standards for flame and smoke generation.

Choose AirBlock Data Center Curtains from Simplex. We offer the best engineered materials and hardware to give you maximum performance for your investment.

Simplex Isolation Systems,
Creators of AirBlock™



1.800.854.7951
www.simplexisolationssystem.com

AirBlock™: Getting the Maximum from Hot Aisle/Cold Aisle Isolation



Curtains – Specify full length ceiling-to-floor curtains. Custom lengths for above-the-rack installations can be specified to accommodate racks of varying heights and widths, and from different manufacturers.



Overlapping Design – Vinyl panels are 40 mil thick and 48 inches wide, with four-inch overlaps to prevent leakage.



Strip Doors – End-of-aisle access is easy with strip doors. Strips come back together easily to limit air loss from one area to another.



Molded Corners – Molded, wraparound corners for superior seals in the data center.

“Hot aisle/cold aisle isolation is an important part of reducing the energy needs of data centers. Simplex is doing this better than anyone out there”
– Eugene Hacopians, ANRE Technologies, LLC

**PolySim™ – Our
NFPA and ASTM
fire-rated
material.**



PolySim™ – The Clear Choice Among Data Center Curtains

- PolySim, exclusively from Simplex, is a thermal plastic urethane, not a PVC. No outgassing, no blooming, and reduced cleaning requirements.
- PolySim meets and exceeds the new NFPA 76 data center standard. Also meets ASTM E-84 standards and is Class 1 fire rated, with the lowest smoke and flame spread ratings available.
- PolySim helps you meet your sustainability goals. It contains no plasticizers or phthalates and is better for the environment.
- PolySim is an alloy using high molecular weight materials. Its permanent static dissipation properties do not wear off or diminish over time like anti-static vinyls do.



AirBlock curtain materials are made from a proprietary formula. Select from models that offer limited outgassing and resistance to electro-static discharge.

Additional AirBlock Data Center Materials

FlexSim™ FR – FlexSim, another exclusive only from Simplex or our authorized dealers, is a low-outgassing, fire-resistant PVC. It is based on our proprietary formula of non-phthalate plasticizers, thus meeting U.S. and European requirements for an environmentally friendly material. FlexSim also meets and exceeds the standards of NFPA 76, NFPA 701 small scale and ASTM E-84 Class 1 fire ratings.

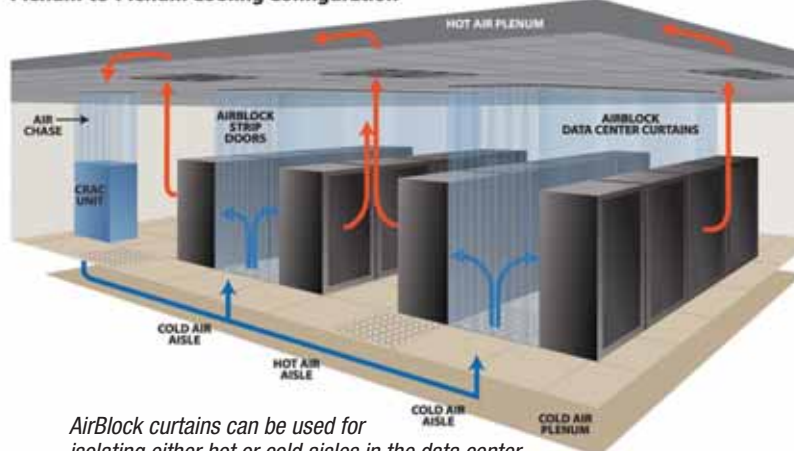
Simplex Standard and Anti-static* Vinyls –

These offer excellent clarity and are UV stabilized. These materials meet and exceed the basic ULV-90 standards of the California Fire Marshal. They are the economical choice in areas where the stricter NFPA and ASTM E-84 standards are not needed.

**NOTE: All anti-static vinyls have a blooming effect in which a film develops on the surface. This is a byproduct of the dissipation of the static charge. Anti-static vinyls must be cleaned regularly to keep film from building up and affecting the clarity.*

For complete test results check the specifications chart on the last page of this bulletin, or consult your AirBlock sales representative.

Plenum-to-Plenum Cooling Configuration



AirBlock curtains can be used for isolating either hot or cold aisles in the data center.

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What Sets Simplex Apart?

Just about everything we do. We incorporate sound engineering principals into hardware design so that our mountings match up to the performance of our curtains. We understand that the data center manager must be able to count on our product for day-to-day functionality, including both ease of installation and operation, and also the need for the system to behave predictably in the event of a fire or other emergency.



The AirBlock DCT Mounting: Custom Designed for the Data Center

DCT gives you the ability to create a solid base frame for your data center with many more options for installing it to your ceiling. You can even install DCT across T-bar ceiling grids when connections are possible only every 48 inches.

- Extra wide mounting flange allows room for easy installation.
- Built-in splicer channel accepts locking splices for both in-line and corner connections.
- Threaded channels allow for attachment of mounting hardware anywhere along the DCT rail.
- Upper channel accepts #8 machine screws, lower channel accepts #12 machine as well as sheet metal screws.



Use the AirBlock DCT mounting system for quick and easy installation and reconfiguration of data center curtains. Make changes, extend walls, add blanks – all in just a few minutes.

- Continuous threaded channels provide unlimited attachment points and flexibility to configure system.
- Works with fusible links. Curtains fall away in case of fire, allowing sprinklers full operational range.
- Quickly installs to T-bar ceilings, hard decks, or suspended threaded rod. Also can be used to attach curtains or rigid panels to racks or the floor.
- Individual curtain modules are then installed in sections with fuse links. In the event of fire, modules drop easily away.

Ceiling Suspension Systems



Corner modules of DCT tracks come together with internal splicing for a solid connection.



In-line splicing ensures a solid connection and rigid construction.

“The cost of data center curtains includes time spent in installation. AirBlock is an easy install.”
– Shawn Mills, Green House Data

Mounting Hardware for all Situations



Flatwall Mounting for mounting on walls or vertical frames.



In-jamb ceiling mountings for mounting under headers, frames or horizontal surfaces.



Bi-folding curtain mounting allows for curtains to be quickly pushed aside.



The DCT track can also be used to mount hardwall partitions in the data center.

Ceiling Attachments



Suspended T-bar mounting onto existing 1", 1-1/2" or 2" suspended T-bar ceilings.



Standard T-bar clips come in 1", 1-1/2" and 2" sizes.



These clips come in two sizes to fit architectural grids commonly found in office buildings.



Caddy clips come in 1" and 1-1/2" (inset) sizes.

Mounting AirBlock Curtain Panels

The reputation Simplex has for long lasting curtains lies in our unique patented mounting system. Simplex bases all its mountings on a bead mounting that allows the curtain to pivot in the mounting, substantially reducing the stress on the curtain at the mounting point. This dramatically increases the life of the curtains.



1. Mount the rear track. Self-threading, machine screws are provided.



2. Unroll software panels and hook into place.



3. Overlaps are automatic and panels are perfectly aligned each time.



4. Curtains can also be inserted into the end of the assembled mounting rail and slid into place.

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What about fire suppression in the data center?

The first step in the design of any data center is a call to the local Fire Marshal. Their concern is going to be one of overall fire-prevention, and that the curtains do not interfere with the spray patterns of the fire sprinkler system.

AirBlock uses mounting hardware with fusible links held together with an alloy designed to melt at 135°, 30 degrees lower than the temperature at which fire sprinklers activate. When the fire sprinklers come on, the curtains will have already fallen away, allowing the sprinklers free operating range. This type of installation has been accepted by the State of California Fire Marshal on a case-by-case basis.

An alternative to fusible links are electronic fuse links, typically hardwired to your fire detection system and activated when smoke is detected. Simplex uses only UL approved fusible links.



Standard fuse link, operates at 135°F



Reusable electronic fuselink.



Electronic fuse link

AirBlock Lanyards

When required, AirBlock can be installed using 18" lanyards. In the event of fire the vinyl walls and mounting railings fall far enough to allow fire sprinklers full operating range, however the stainless steel cables prevent the assembly from falling to the floor.



When installed, cables coil up and out of the way



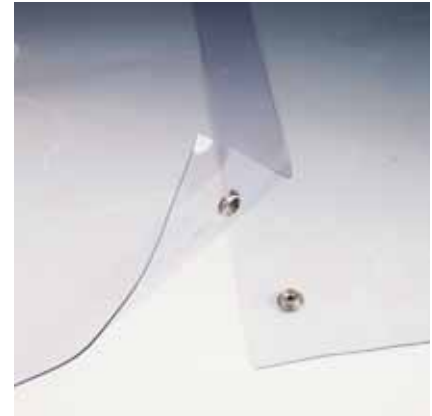
Upon activation, curtains and mounting fall far enough to allow sprinklers full operating range.

Closures and Fastening Options

AirBlock fastening options can be used to join two curtains together, or to also fasten curtains to racks in your data center.



Flexible Magnet Self-Closures – Ideal for sealing overlap areas where frequent access is required. Chemical resistant.



Overlap Retention Snaps – An inexpensive way of closing overlap areas of curtains. Available in stainless steel and Nylon.



Dual Lock Fastener – A non-particulating, clear 3M flexible system uses a plasticizer-resistant adhesive. Ideal for attaching curtains vertically or horizontally to racks or overlaps.



Hook and Loop Fastener – For securing curtain overlaps. Attaches with plasticizer-resistant adhesive and then sewn.



Mount the DCT track to the floor and use a batten strip to secure AirBlock curtains both top and bottom.

Other AirBlock Data Center Components from Simplex

Simplex also manufactures a complete line of hardwall panels for hot aisle and cold aisle isolation in the data center. Also see Simplex for door solutions, ceiling modules, blank fillers, CRAC enclosures and other data center cooling solutions.



Data Center Partitions



Other Door Options



Ceiling Caps

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Part Numbers and Applications

<p>40480 48" wide strips, 40 mil thick. Capable of being RF welded into various widths. Excellent for longer widths to create solid walls for dividing aisles. Available in FlexSim FR, standard and anti-static vinyls and PolySim.</p>	<p>40122 12" wide strips, 40 mil thick. 2" overlaps on either side extending beyond the hook-bead mount. This application is designed specifically for strip doors or end-of-aisle access. Strip doors part easily, come back together quickly. Available in FlexSim FR, standard and anti-static vinyls and PolySim.</p>
<p>40484 48" wide strips, 40 mil thick. 4" overlaps in either side, extending beyond the hook-bead mount. The double overlap helps to form a better seal, preventing the mixing of hot and cold air. Excellent for those applications that cannot have a solid wall. Available in FlexSim FR, standard and anti-static vinyls and PolySim.</p>	<p>608 8" wide strips, 60 mil thick. Series Use for strip door applications in high-access area. Thicker vinyl provides more stability and better sealing power. Available only in standard and anti-static vinyls.</p>

How to Order AirBlock Data Center Curtains from Simplex

Every data center is different. Use this Product Bulletin as a guide to the products and applications that might work for your data center, taking note of the product specifications and testing information on this page.

Using the data center questionnaire on the Simplex website (www.simplexstripdoors.com/pdf/DCquestionnaire.pdf) to detail the specifics of your data center project. Also, you can call your authorized AirBlock dealer, or call Simplex directly at 800-854-7951.

AirBlock Data Center Curtains Material Specifications and Testing Information

TEST	MATERIAL		
	Polysim 509	FlexSim Std.	Simplex Standard & Anti-static
Hardness Durometer (D-2240)	90A/47D	85A	79A
Tensile Strength % (D-412)	3800	2950	2400
Ultimate Elongation % (D-412)	450%	290%	350%
Ultimate Tear PSI (D-1004)		570 lbf/in (ASTM D-624)	440
100% Module PSI (D-412)	1200	1400	1400
Brittle Temp. (deg. F)	0° F/-17° C	0° F/-17° C	-36° F
Minimum Operating Temp. (deg. F)	32° F/ 0° C	32° F/ 0° C	0° F
Specific Gravity	1.16	1.26	1.21
UV Stability	Good	Excellent	Excellent
Flame Test UV 94 V-0	Pass	Pass	Pass
Flame NFPA 701 Small Scale	Pass	Pass	
ASTM E-84 Class 1 – Flame	10	20	
– Smoke	180	400	
Specific and ASTM Test Methods in ()			

Simplex Warranty

Simplex warrants their products to be free of manufacturing defects and against product failure of any kind for a period of one year from date of shipment. This includes premature yellowing or curling of strips (excluding those components that do not have UV protection – see sales rep for details). This warranty is limited to the repair or replacement of vinyl strips, vinyl panels or softwall materials and/or attaching hardware, and does not include damage resulting from accident or malicious use. This warranty further applies only when the recommended material thickness and width are used for the originally specified application. Further, it applies only to Simplex doors, softwalls and frame systems which are properly installed in accordance with Simplex installation instructions. Additional extended warranty may be available on certain applications. See individual application sheets or ask your representative. ARMOR-BOND lifetime guarantee applies to first three inches of strip where stress is the greatest and attaches to the mounting hardware. Remainder of the strip is covered by the 1-year warranty.



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All AirBlock™ vinyl and hardware components are proudly designed and manufactured in the USA.

DDCurtains-102-0413-2500