Waterproof type for cold aisle of computer room



Overview

Armstrong Data Center Containment and Ceiling Optimize data center airflow and efficiency with Armstrong hot & cold aisle containment and structural ceilin.

Key Takeaways

For cold aisles in computer rooms, waterproof or moisture-resistant containment typically uses vinyl curtains, steel-cementitious panels, and sealed ceiling systems to protect equipment while maintaining airflow efficiency. Key Waterproof Materials and Solutions1. Vinyl Strip Doors and Curtains Vinyl is commonly used for cold aisle containment doors and partitions.

It is flexible, durable, and inherently resistant to moisture, making it ideal for preventing condensation or accidental water exposure while allowing easy access to server racks. 2.

Steel-

Cementitious Panels These panels consist of a hollow steel shell filled with a foamed cement-based core, providing structural strength, fire resistance, and moisture protection. They are suitable for raised floor or modular cold aisle containment systems, offering a rigid, waterproof barrier that supports airflow management. 3.

Sealed Ceiling Panels and Roof Systems Cold aisle containment often includes ceiling panels or retractable roof systems above racks. Materials like pre-fabricated modular panels or Polar Roof systems create enclosed zones that prevent cold air from escaping and protect against overhead moisture. 4.

© 2026 BAGYOU FIBRE NETWORKS - All rights reserved

Modular Partition Walls Premium-grade modular partitions, often made from moisture-resistant composites or coated metals, provide airtight separation between hot and cold aisles. These walls enhance thermal performance and prevent water ingress while supporting future high-density upgrades.

Design Considerations

Positive Pressure Management: Ensuring the cold aisle is slightly pressurized helps direct airflow into equipment intakes and reduces the risk of condensation forming on surfaces. Sealing and Airtightness: All panels, doors, and ceiling components should be tightly sealed to prevent water or humidity from entering the cold aisle. Compatibility with Raised Floors: If using perforated floor tiles for cold air delivery, waterproof panels and curtains should integrate seamlessly with the floor system to maintain containment efficiency.

Maintenance Access: Materials like vinyl or modular panels allow easy removal or reconfiguration without compromising moisture protection.

Summary

For cold aisles in computer rooms, vinyl curtains, steel-cementitious panels, and sealed ceiling systems are the most effective waterproof or moisture-resistant options. These materials not only protect IT equipment from water and condensation but also maintain optimal airflow, energy efficiency, and compliance with data center cooling standards.

Article Content

Armstrong Data Center Containment and Ceiling

Optimize data center airflow and efficiency with Armstrong hot & cold aisle containment and structural ceiling solutions built for performance and

Cold Aisle Containment | Legrand

By isolating the cold aisle, containment reduces unintended mixing of cold supply air with hot exhaust air, maintaining uniform, predictable temperatures across all racks.

Aisle Containment | Modular Cleanroom & Data Center Containment ...

Our modular systems provide flexible, secure separation between hot and cold aisles or controlled zones to maintain optimal environmental performance.

Data Center Aisle Containment Systems | Profile IT Solutions

Specify complete aisle containment systems for data centers, edge facilities and high-density compute rooms. Compare configurations, build a shortlist and send one project-ready enquiry.

© 2026 BAGYOU FIBRE NETWORKS - All rights reserved

Aisle Containment Systems Physical Containment Systems ...

Door Options A choice of door options is available for use with the aisle containment system to provide the right combination of safety and security. Dual sliding doors or Vertical doors can be chosen for

AISLE CONTAINMENT

Hot aisle containment is made from light duty aluminum profile and thermal insulation PC board, has better heat dissipation performance than cold aisle containment in high density data centers, to

Hot & Cold Aisle Containment Systems For Data

Cool Shield™ containment offers state-of-the-art hot and cold aisle containment solutions designed to maximize data center efficiency while significantly reducing

Hot / Cold Aisle Containment

AisleLok® Drop Away Ceilings are a key component of Upsite''s Rigid Containment solution and are designed for cold aisle applications with raised floor supply.

Which Aisle Containment Strips are Right for You?

Cool Shield™ is proud to offer flexible containment strips that enable data centers to contain hot/cold aisles while they minimize higher temp air leakages usually linked to this approach.

Data Center Aisle Containment Systems | Profile IT

Data-center airflow catalogue Keep cold air focused. Send heat where it belongs. Specify complete aisle containment systems for data centers, edge facilities and

Aisle containment as an approach to data center cooling

Aisle containment approach offers predictable air flows, reduces fan energy, eliminates the hot spots, and expands the opportunities for free cooling.

FOCUSED COOLING USING COLD AISLE CONTAINMENT

While either hot aisle or cold aisle containment systems can be installed and are both capable of increasing efficiency and cooling today''s high heat data centers, meaningful differences exist in how

Hot and Cold Aisle Containment: What You Need to Know

Hot aisle containment systems isolate the hot aisle using a similar enclosure system to that of a cold aisle with a sealed door for access. This arrangement is preferred in newer systems and

© 2026 BAGYOU FIBRE NETWORKS - All rights reserved

Cold Aisle Containment in Data Centers | Subzero

Cold Aisle vs Hot Aisle Containment People ask which type of containment works better. From a thermodynamics standpoint, it doesn''t matter. Both accomplish

Data Centre Cooling: Hot Aisle and Cold Aisle Design

The hot aisle/cold aisle configuration ensures a consistent supply of cool air, reducing the likelihood of equipment failures due to overheating. Better airflow management: this arrangement enhances

Data Center HVAC Systems

Learn how Data Center HVAC Systems work using cold and hot aisle strategies and air cooled versus liquid cooled IT equipment racks.

Hot/Cold Aisle Containment | Data Center Containment

Then observe the unique layout and architecture of each computer room to discover conditions that make hot aisle or cold aisle containment preferable. With

Data Center Aisle Containment

Traditional open aisle data centers use perimeter PAC (precision air conditioning) or CRAC (computer room air conditioning) units to channel cold air up through a raised floor void via grilles positioned in

Contact Us

Continue your research online:

Website: https://bagyou.es
Technical inquiry: https://bagyou.es/project-enquiry.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 BAGYOU FIBRE NETWORKS - All rights reserved