



## Semiconductor Company Reduces Data Center Temperatures as it Standardizes with KoldLok Grommets

### Key Highlights

#### Customer:

Major Semiconductor Manufacturer

#### Needs:

The manufacturer's main data center needed to increase data center efficiency by reducing bypass airflow resulting from poorly sealed cable openings.

#### Upsite Solution:

KoldLok Raised Floor Grommets

#### Results:

- Air temperatures dropped from 72° to 63° or 64° F as the company has gradually installed KoldLok Grommets.
- The data center cut bypass airflow in half.
- Though new equipment increased the electrical load by 130 kW, the company has not needed to increase its cooling capacity.
- The data center will standardize with KoldLok Grommets as it continues to reconfigure its main data center, as well as other data centers.



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—Data Center Technician

## Customer

A worldwide leader in semiconductor technologies.

## Data Center Needs

The company’s main data center manages transactions for its dozens of fabrication plants worldwide. Any downtime in this 24x7 environment impacts production capabilities, and could take a significant financial toll on the company. “High availability is absolutely critical,” said a data center technician.

Over the past few years, the company has gradually changed its data center setup from a mainframe infrastructure to a distributed computer configuration to improve airflow. At the same time, staff has tried to reduce bypass airflow by sealing cable cutouts. However, the foam it previously used was easily jostled out place, forcing the staff to continuously check on foam positioning across thousands of cable cut-outs.

## Solution

Like many organizations, the manufacturer initially considered adding more air handlers to keep data center temperatures manageable. After attending a data center cooling seminar put on by The Uptime Institute, Inc.<sup>®</sup>, the company began aggressively planning ways to improve its data center airflow. Its remediation plans included changing to a Cold and Hot Aisle configuration and installing KoldLok Grommets to seal cable openings. Compared to the foam and rubber solutions the technician had seen, KoldLok Grommets provided a tighter, more reliable seal.

As the company has added equipment, it has installed KoldLok. Though the data center increased its electrical load by 130 kW, it has not needed to add cooling capacity. In fact, it has delayed the purchase of additional cooling units, except in cases where it needed to replace old units.

At the outset of the project, data center staff measured air temperatures at 72° F. By adding KoldLok Grommets, the air temperature immediately dropped to around 65° F. Gradually, the data center has sealed more cable openings—more than 1,200 to date—and subsequently brought air temperatures down to a range of 63°-64° F.

“As we have closed cable openings with KoldLok Grommets, temperatures have gone down by nearly 10° and demand on our air handlers has dropped,” the technician said. “Where we have implemented KoldLok, we have probably cut bypass airflow in half.”

So far, the company has set up a Cold and Hot Aisle configuration throughout much of the data center. Even in places with high-density cabling, data center have not seen heat problems.

Moving forward, the company will standardize with KoldLok Grommets as it continues to reconfigure its main data center, as well as other data centers.

“As we configure our data center to improve efficiency, all floor tile cut-outs will have KoldLok Grommets,” he said.