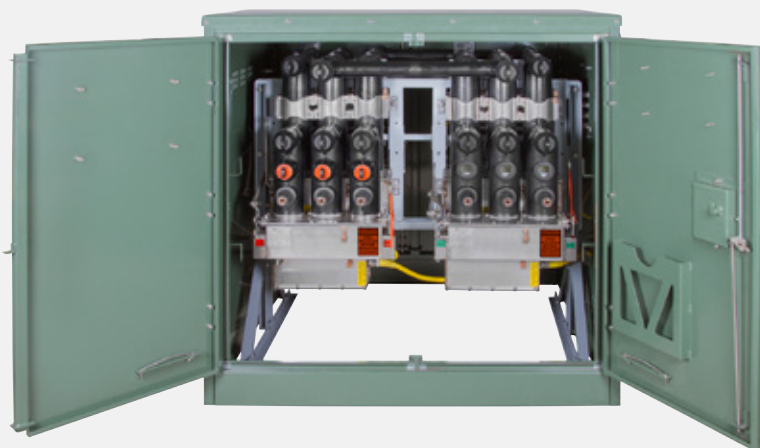


TECHNOLOGY COMPARISON

# Elastimold™ solid-dielectric switchgear

## Six reasons to choose solid-dielectric over air-insulated switchgear



01 Elastimold solid-dielectric switchgear in a pad-mount enclosure with visible open.

More and more utility companies are switching from air-insulated switchgear to solid-dielectric switchgear. Top reasons to make the change.



- 1 True dead-front all around for safety and reliability**  
 Elastimold solid-dielectric switchgear is safer for crews due to its true dead-front all-around construction and fully insulated bus. This also helps eliminate tracking between insulators and enclosures that can occur with air-insulated switchgear installations.
- 2 More reliable in flood-prone areas**  
 Solid-dielectric switchgear hardens your grid, because it keeps working even when fully submerged in water up to 10 feet. Air-insulated switchgear doesn't. This is critical in areas prone to heavy rains and flooding. And with recent climate change trends, it's not always easy to predict where those will be.
- 3 Flexible modular and space-saving design**  
 ABB's Elastimold solid-dielectric switchgear is modular which allows you to customize the system to meet your unique needs. Solid-dielectric has a smaller footprint than air-insulated switchgear. This is beneficial in applications with limited space such as vaults and even in pad-mount applications due to aesthetic reasons. For pad-mount retrofits, our modularity helps ensure that the new switchgear will fit on the existing pad, reducing overall cost.
- 4 Critter-proof**  
 An animal crawling inside an air-insulated switchgear enclosure can cause a fault that leads to an outage. With solid-dielectric switchgear, all components are insulated and sealed, minimizing the potential for an outage resulting from animal infestation.
- 5 Corrosion-proof**  
 When exposed to high humidity or salt air, air-insulated switchgear is prone to corrosion. Again, because solid-dielectric switchgear components are fully insulated and sealed, it is resistant to corrosion.
- 6 Lifecycle cost reduction**  
 Solid-dielectric switchgear requires no scheduled maintenance or routine cleaning, offering significant savings in operating costs over the lifespan of the switchgear. Air-insulated switchgear does require maintenance, which, if not performed, can significantly reduce the switchgear's lifespan, requiring early replacement.

## FAQs

**We've always used air-insulated switchgear. We know it works.**

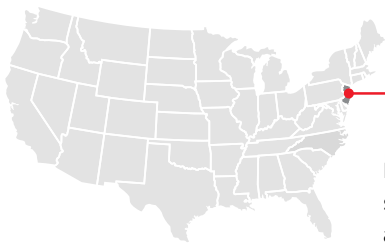
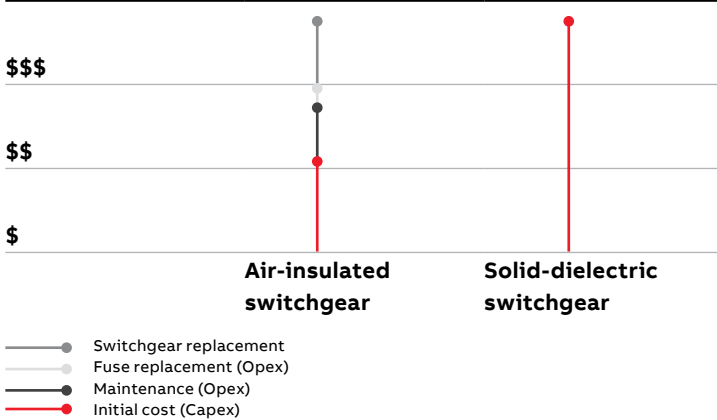
**Why would we switch to this new technology?**

ABB's solid-dielectric technology isn't really new. Elastimold™ switchgear uses vacuum interruption with solid-dielectric insulation based on technology that's been field tested and field proven over 25 years. Utility companies that have already switched appreciate the advantages of our switchgear.

**This solid-dielectric switchgear costs a lot more than air-insulated switchgear. How could we justify that expense?**

While there's an initial investment in a solid-dielectric switchgear, it's important to consider the total cost of ownership over the average 30-year switchgear lifespan. The hidden costs of air-insulated switchgear can add up due to maintenance, outages and replacement. The reliability factor of solid-dielectric switchgear can deliver peace of mind and long-term savings, making it a smart value.

### Approximate 30-year cost comparison



Elastimold solid-dielectric switchgear is designed, assembled, tested and shipped from Hackettstown, New Jersey.

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## Case study example

### Challenge

For an electric utility, having a reliable electric system is critical. A large electrical cooperative in the Southwest was experiencing interruptions in service due to performance issues with its 3-way air-insulated fused switchgear. The insulators were tracking to the enclosure of the switchgear, resulting in multiple outages. The utility determined it needed to replace its air-insulated switchgear with an alternative solution. However, two challenges made it difficult to find an alternative solution using a typical switchgear:

- The need to accommodate the existing cable entrance/exit locations.
- The utility preferred to retain the existing enclosure to match the existing footprint.

### Solution

ABB Installation Products provided a solution based on Elastimold molded vacuum interrupters (MVIs) and molded vacuum switches (MVSs), which are the essential building blocks of Elastimold switchgear. The dead-front, solid-dielectric design of the MVS and MVI helps to eliminate the tracking that was being experienced by the air-insulated switch in the existing switchgear.

Technologies such as solid-dielectric insulation and a patented silicone rubber diaphragm inside the MVS and MVI help reduce the overall size, which aids in retrofitting the switchgear into an existing enclosure.

Since successful completion of the initial retrofit project, this utility cooperative continues to install Elastimold solid-dielectric switchgear throughout its service area.

To learn more about Elastimold switchgear, please contact your local sales representative.

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