

ARC FAULT MITIGATION

Vent design and testing

The Issue

Mobile switchrooms and surface electrical enclosures on mine and industrial sites are required to have protection mechanisms to prevent uncontrolled or catastrophic failure of enclosures under arc fault conditions (AS/NZS4871 Clause 2.2.1).

Such failures can be hazardous to personnel and pose a risk of damage to adjacent plant equipment.



Vented enclosure protecting mechanical integrity



Ampcontrol's solution

To reduce the potential risk to operator safety and adjacent equipment and deliver proven enclosure compliance, Ampcontrol has developed a unique arc vent design and supporting testing regime.

Using simulated arc fault conditions, extensive testing benchmarks have been established which enable fast application of the correct vent design to meet compliance requirements.

Upon auditing your enclosure, Ampcontrol can provide recommendations for vent design and enclosure upgrades to ensure your arc venting methods are compliant.

Features and benefits

- Faster response time delivering improved personnel and equipment protection
- Testing rated to meet AS/NZS4871
- Ideal for retro fitting to non-compliant enclosures
- Vent is strategically located at a low risk area
- Vent design and material provides faster venting and rapidly reduces the enclosure pressure, even at lower arc fault event pressure levels
- Maximises the 'safe zone' for surrounding equipment and personnel by controlling and directing the release of arc fault products



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Vent Design Overview

Ampcontrol's arc venting solution protects the mechanical integrity of an electrical enclosure by incorporating sacrificial panels to prevent enclosure pressurisation and subsequent failure.

While simple in principle, testing has demonstrated that rapid vent activity is critical to function. When matched to an enclosure's mechanical strength and the nominated fault current levels the new vent design is a significant advancement in venting technology.

Innovative Testing Solutions

Our rigorous testing techniques emulate the effect of arc faults in electrical enclosures to verify ratings. The extensive testing already completed enables Ampcontrol to evaluate a range of enclosure sizes including large enclosures that cannot be accommodated in existing test facilities.

This new testing method ensures quick compliance and delivers time and cost savings.

