



## UL 508A Empty Enclosure Voltage Usage

Engineering Review  
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Use of UL 508A Empty Enclosures for 1000 volt ac, 1500 volt dc, Nominal:

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### Compliance Position

A UL 508A industrial control panel enclosure / empty enclosure may be justified for use in an application identified as 1000 volt ac, 1500 volt dc, nominal, when the enclosure is used within its certified conditions and the completed assembly is evaluated for component ratings, electrical spacing, insulation coordination, bonding, grounding, and environmental suitability.

The compliance basis is not that every UL 508A empty enclosure is automatically certified as a standalone 1500 Vdc enclosure. Rather, the justification relies on the relationship between UL 508A construction requirements, NEC voltage classification, and IEC insulation coordination principles.

### Standards Basis

- **UL 508A** provides the construction basis for industrial control panels and industrial control panel enclosures operating at 1000 volts or less.
- **NFPA 70 / NEC Article 312** recognizes 1000 volt ac, 1500 volt dc, nominal, as a key dividing line between lower-voltage and higher-voltage installation requirements.
- **IEC 60664-1** supports insulation coordination for equipment connected to low-voltage systems rated up to 1000 Vac or 1500 Vdc, including clearance, creepage, solid insulation, pollution degree, and overvoltage category considerations.

### Acceptance Conditions

1. The enclosure must remain within its certified construction and conditions of use.
2. The completed assembly must maintain required clearances, creepage distances, insulation systems, grounding, and bonding.
3. Installed components, terminals, conductors, barriers, and field wiring must be rated and arranged for the intended voltage.
4. The enclosure environmental rating must be suitable for the application.
5. Final suitability must be confirmed by the completed assembly evaluation, not by the empty enclosure alone.



## Conclusion

A UL 508A empty enclosure can be used as part of a defensible compliance justification for 1000 volt ac, 1500 volt dc, nominal, applications, provided the enclosure certification is maintained and the completed assembly is evaluated for the actual voltage, spacing, insulation, bonding, environmental, and component-use conditions. This position is suitable for engineering files, audit support, customer technical responses, and certification body discussions.

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Respectfully;

*Garrett Rettig*

Garrett Rettig  
Engineer  
Allied Moulded Products, Inc.