AS 1824, Part 2—1978
UDC 621.315.6:621.316.93
621.319.5

Australian Standard 1824, Part 2–1978

INSULATION COORDINATION

Part 2–Application Guide

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS were officially represented on the committee entrusted with the preparation of this standard.

Associated Chambers of Manufactures of Australia

Australian-British Trade Association

Australian Electrical Manufacturers Association

Electricity Supply Association of Australia

Railways of Australia Committee

Testing Authorities

The Institution of Engineers, Australia

This standard, prepared by Committee EL/7, Power Switchgear, was approved on behalf of the Council of the Standards Association of Australia on 23 December 1977, and was published on 1 May 1978.

To keep abreast of progress in industry, Australian Standards are regularly reviewed. Suggestions for improvement to published standards, addressed to the head office of the Association, are welcomed.

AUSTRALIAN STANDARD

INSULATION COORDINATION

Part 2
Application Guide

AS 1824, Part 2–1978

First published 1978

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PREFACE

This standard was prepared by the Association's Committee on Power Switchgear.

It forms Part 2 of a 2-part standard on insulation coordination. AS 1824, Part 1 — Basic Principles, Standard Insulation, Levels and Test Procedures, has already been published. Part 2 provides guidance in the application of Part 1.

The standard is based on IEC 71.2, Recommendations for Insulation Coordination, Part 2 — Application Guide, and acknowledgment is made of the assistance received therefrom.

While it is technically similar to IEC 71.2, it has been re-written to eliminate those portions of the IEC text which it was felt did not contribute to the understanding or application of Part 1 or which were more appropriately located in a textbook. Additionally, Appendix C, Statistical Evaluation of the Protective Effect of Spark Gaps, of IEC 71.2 is not included, as such an evaluation is not appropriate to a standard on insulation coordination.

In the use of this Part, reference to the following standards may be necessary:

AS 1034 High Voltage Current-Limiting Fuses

AS 1307 Surge Diverters — Non-linear Resistor Type

AS 1931 High Voltage Testing Techniques

Part 1 — General Definitions, Test Requirements, Test Procedures and Measuring Devices

Electricity Supply Association of Australia Publication D(b)19—1975—Insulator Pollution Guide.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
INSULATION COORDINATION

PART 2 — APPLICATION GUIDE

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard provides some guidance on the selection of the electric strength of equipment, of surge diverters or protective gaps, and of the most suitable degree of switching overvoltage control.

It is based on apparatus types and ratings in use at the present time. As new equipment and equipment characteristics are developed and proved, this standard should not be interpreted as limiting their adoption.

1.2 OBJECT. The object of this standard is to provide a guidance toward rational and economic solutions. It does not give strict rules for insulation coordination and design.

Therefore, it is the intention of this standard to consider only a few basic cases, it being evident that stations constituting exceptions to normal design, or included within systems having exceptional characteristics, will require special study by experienced engineers.

This standard covers only phase-to-earth insulation and it deals separately with the following three voltage ranges of the highest voltage for equipment:

(a) Range A: above 1 kV and less than 52 kV.
(b) Range B: from 52 kV to less than 300 kV.
(c) Range C: 300 kV and above.

The standard covers installations of all kinds and in all situations involving voltages higher than 1 kV, whether they are exposed to lightning or not, with the exception of overhead lines. However, the test procedures apply also to the latter.

1.3 REFERENCE TO AUSTRALIAN STANDARDS. AS 1824, Part 1 and several other Australian standards cover withstand and protective levels separately. Thus: