

AS/NZS IEC 60079.15:2020
IEC 60079-15:2017
(Incorporating Amendment No. 1)



Australian/New Zealand Standard™

Explosive atmospheres

Part 15: Equipment protection by type of protection "n"



AS/NZS IEC 60079.15:2020

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee EL-014, Equipment for Explosive Atmospheres. It was approved on behalf of the Council of Standards Australia on 12 November 2019 and by the New Zealand Standards Approval Board on 18 December 2019.

This Standard was published on 24 January 2020.

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This Standard was issued in draft form for comment as DR AS/NZS 60079.15:2019.

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ISBN 978 1 76072 714 7

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Part 15: Equipment protection by type of protection "n"

Originated as AS/NZS 60079.15:2006.

Previous edition 2011.

Third edition 2020.

Reissued incorporating Amendment No 1 (November 2021).



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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Equipment for Explosive Atmospheres to supersede AS/NZS 60079.15:2011 *Explosive atmospheres, Part 15: Equipment protection by type of protection 'n'*.

A1 This Standard incorporates Amendment No. 1 (November 2021). The start and end of changes introduced by the Amendment are indicated in the text by tags including the amendment number 1. **A1**

A1 AS/NZS 60079.15:2020 was initially published with modifications to refer to a modified adoption of AS/NZS 60079.0:2019 rather than IEC 60079-0. The modifications to AS/NZS 60079.0 do not affect compliance with IEC 60079-15, and the use of either AS/NZS 60079.0 or IEC 60079-0 is acceptable for AS/NZS 60079.15. Accordingly, AS/NZS 60079.15:2020 has been corrected to an identical adoption of IEC 60079-15:2017. **A1**

The objective of this Standard is to specify requirements for the construction, testing and marking for Group II electrical equipment with type of protection “n” which includes sealed devices “nC”, hermetically sealed devices “nC”, non-incendive components “nC” and restricted breathing enclosures “nR” intended for use in explosive gas atmospheres.

This Standard applies to electrical equipment where the rated input voltage does not exceed 15 kV r.m.s. AC or DC including where the internal working voltages of the Ex product exceeds 15 kV, for example starters for HID luminaires.

This Standard supplements and modifies the general requirements of AS/NZS 60079.0, except as indicated in [Table 1](#). Where a requirement of this Standard conflicts with a requirement of AS/NZS 60079.0, the requirement of this Standard takes precedence.

Table 1 — Relationship of AS/NZS 60079.15 to AS/NZS 60079.0

| Clause of AS/NZS 60079.0 | | | AS/NZS 60079.0 clause application to AS/NZS 60079.15 | |
|---------------------------------|---|---|--|------------------------------|
| Ed. 6.0 (2011) (informative) | Ed. 7.0 (future edition) (informative) | Clause/Subclause title (normative) | Protected sparking “nC” | Restricted breathing “nR” |
| 3 | 3 | Definitions | Applies | Applies |
| 4 | 4 | Equipment grouping | | |
| 4.1 | 4.1 | Group I | Excluded | Excluded |
| 4.2 | 4.2 | Group II | Applies | Applies |
| 4.3 | 4.3 | Group III | Excluded | Excluded |
| 4.4 | 4.4 | Equipment for a particular explosive atmosphere | Applies | Applies |
| 5 | 5 | Temperatures | | |
| 5.1 | 5.1 | Environmental influences | Applies | Applies |
| 5.2 | 5.2 | Service temperature | Applies | Applies |
| 5.3 | 5.3 | Maximum surface temperature | | |
| 5.3.1 | 5.3.1 | Determination of maximum surface temperature | Applies | Applies |
| 5.3.2 | 5.3.2 | Limitation of maximum surface temperature | | |
| 5.3.2.1 | 5.3.2.1 | Group I equipment | Excluded | Excluded |

Table 1 (continued)

| Clause of AS/NZS 60079.0 | | | AS/NZS 60079.0 clause application to AS/NZS 60079.15 | |
|---------------------------------|---|--|--|------------------------------|
| Ed. 6.0 (2011) (informative) | Ed. 7.0 (future edition) (informative) | Clause/Subclause title (normative) | Protected sparking “nC” | Restricted breathing “nR” |
| 5.3.2.2 | 5.3.2.2 | Group II equipment | Applies | Applies |
| 5.3.2.3 | 5.3.2.3 | Group III equipment | Excluded | Excluded |
| 5.3.3 | 5.3.3 | Small component temperature for Group I and Group II equipment | Applies | Excluded |
| - | 5.3.4 | Component temperature of smooth surfaces for Group I or Group II equipment (Applies for smaller than 10 000 mm ² only) | Applies | Excluded |
| 6 | 6 | Requirements for all electrical apparatus | | |
| 6.1 | 6.1 | General | Applies | Applies |
| 6.2 | 6.2 | Mechanical strength | Applies | Applies |
| 6.3 | 6.3 | Opening times | Excluded | Applies |
| 6.4 | 6.4 | Circulating currents | Applies | Applies |
| 6.5 | 6.5 | Gasket retention | Applies | Applies |
| 6.6 | 6.6 | Electromagnetic and ultrasonic radiating equipment | Applies | Applies |
| 7 | 7 | Non-metallic enclosures and non-metallic parts of enclosures | | |
| 7.1 | 7.1 | General | | |
| 7.1.1 | 7.1.1 | Applicability | Applies | Applies |
| 7.1.2 | 7.1.2 | Specification of materials | Applies | Applies |
| 7.2 | 7.2 | Thermal endurance | | |
| 7.2.1 | 7.2.1 | Tests for thermal resistance | Applies | Applies |
| 7.2.2 | - | Material selection | Modified | Modified |
| - | 7.2.2 | Material selection | Applies | Applies |
| 7.2.3 | 7.2.3 | Alternative qualification for elastomeric sealing O-rings | Applies | Applies |
| 7.3 | 7.3 | Resistance to ultraviolet light | Applies | Applies |
| 7.4 | 7.4 | Electrostatic charges on external non-metallic materials | | |
| 7.4.1 | 7.4.1 | Applicability | Applies | Applies |

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