| IEC 60079-45**Explosive atmospheres – Part 45: Electrical ignition systems for internal combustion engines** |
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| Clause | Requirement – Test  | Result – Remark  | Verdict |
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| 1 | Scope |
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| 2 | Normative references |
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| 3 | Terms and definitions |
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| 4 | System overview |
| 4.1  | General |  |  |
| 4.2  | Spark containment |  |  |
| 4.3 | Spark prevention |  |  |
| 4.4 | Spark detection/prevention |  |  |
| 4.5 | Ignition system equipment |  |  |
| 4.6 | Engine enclosed system |  |  |
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| 5 | Construction and testing requirements |
|  |
| 5.1 | General |  |  |
| 5.2 | Impact |  |  |
| 5.3 | Chemical compatibility |  |  |
| 5.4 | Terminations and connections |  |  |
| 5.5 | Power source |  |  |
| 5.6 | Engine control module and ignition control unit |  |  |
| 5.7 | Engine primary wiring |  |  |
| 5.8 | Ignition coils |  |  |
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| 5.9 | Secondary leads |
| 6.9.1 | General |  |  |
| 5.9.2 | Flexible secondary lead |  |  |
| 5.9.3 | Rigid secondary lead |  |  |
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| 5.10 | Spark plugs |  |  |
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| 6 | Spark containment |  |  |
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| 7 | Spark prevention |
| 7.1 | General |  |  |
| 7.2 | Terminations, connections, and enclosures |  |  |
| 7.3 | Ignition coil requirements |  |  |
| 7.4 | Spark plug well applications |  |  |
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| 8 | Spark detection/prevention |
| 8.1 | General |  |  |
| 8.2 | Design requirements |  |  |
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| 9 | EX Equipment certificate |  |  |
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| 10 | Marking |
| 10.1 | General |  |  |
| 10.2 | Warning markings |  |  |
| 10.3 | Example markings |  |  |
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| 11 | Manufacturer’s instruction |
| 11.1 | General |  |  |
| 11.2 | Manufacturer’s instructions and installation drawings |  |  |
| 11.3 | warnings |  |  |
| 11.4 | Commissioning checklist |  |  |
| 11.5 | Maintenance |  |  |
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| 12 | Test procedures |
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| 12.2 | Abrasion test for flexible secondary leads |
| 12.2.1 | General |  |  |
| 12.2.2 | Abrasive wheel test |  |  |
| 12.2.3 | Emery cloth abrasion test |  |  |
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| 12.3 | Ignition coils, extensions or non-flexible secondary leads elevated temperature exposure test |  |  |
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| 12.4 | Chemical compatibility |
| 12.4.1 | General |  |  |
| 12.4.2 | Chemical compatibility for non-flexible leads and equipment |  |  |
| 12.4.3 | Chemical compatibility for flexible leads |
| 12.4.3.1 | General |  |  |
| 12.4.3.2 | Oil compatibility test |  |  |
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| 12.5 | Vibration test |  |  |
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| 12.6 | Shielded secondary system tests |
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| 12.6.2 | Explosion test exemption for metallic flexible leads |  |  |
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| 12.7 | Spark plug gas tightness test |
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| 12.8 | Flashover tests |
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| 12.8.2 | Rigid secondary lead test configuration |  |  |
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| 12.11 | Primary and secondary lead terminations pull test |  |  |
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| 12.12 | Flexible secondary lead insulation cut test |  |  |
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| Annex A(Normative) | Guidance for spark containment |
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| Annex B(Normative) | Guidance for spark prevention |

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| Measurement Section, including Additional Narrative Remarks (as deemed applicable) |