

# INTERNATIONAL STANDARD

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**AMENDMENT 1**  
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## **Road vehicles — Connectors for electrical connections between towing vehicles and trailers — Test methods and performance requirements**

### **AMENDMENT 1**

*Véhicules routiers — Connecteurs pour connexions électriques entre  
véhicules tracteurs et remorques — Méthodes d'essai et caractéristiques  
de fonctionnement*

*AMENDEMENT 1*



Reference number  
ISO 4091:1992/Amd.1:1997(E)

## Foreword

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Amendment 1 to International Standard ISO 4091:1992 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

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# Road vehicles — Connectors for electrical connections between towing vehicles and trailers — Test methods and performance requirements

## AMENDMENT 1

Page 1, clause 2

Add the following normative references:

ISO 7638-1:—<sup>1)</sup>, *Road vehicles — Electrical connectors for braking systems — Part 1: Connectors for 24 V nominal supply voltage.*

ISO 7638-2:—<sup>1)</sup>, *Road vehicles — Electrical connectors for braking systems — Part 2: Connectors for 12 V nominal supply voltage.*

ISO 12098:1994, *Commercial vehicles with 24 V systems — 15-pole connectors between towing vehicles and trailers — Dimensions and contact allocation.*

Page 2, subclause 3.3.5

Replace the third paragraph with the following:

Wire all contacts except the data contacts in series and connect them to a d.c. source adjusted to an initial current of 100 mA to monitor connection resistance during the entire test, see arrangement in figure 2. Wire the contacts for data transmission in the connector according to ISO 7638-1, ISO 7638-2 or ISO 12098 in series and connect them to a d.c. source adjusted to an initial current of 5 mA to monitor connection resistance during the entire test, see arrangement in figure 2.

Page 6, figure 6

Replace "Figure 6 — Current cycling test" with "Figure 6 — Current cycle".

1) To be published. (Revision of ISO 7638:1985)

Page 6, table 2

Replace the existing table 2 with the following table 2:

| Reference subclause | Test                                             | Sample |         |        |        |         |        |
|---------------------|--------------------------------------------------|--------|---------|--------|--------|---------|--------|
|                     |                                                  | A      | B       | C      | D      | E       | F      |
| 3.2                 | Visual examination                               | 1      | 1       | 1      | 1      | 1       | 1      |
| 4.2                 | Dimensional check                                | 2      |         |        |        |         |        |
| 3.3.3               | Insertion and withdrawal force test: insertion   | 3      | 2       | 2      |        | 2       |        |
| 3.3.4               | Locking device operating test                    | 4<br>8 | 3<br>10 | 3<br>8 |        | 3<br>8  |        |
| 3.3.1               | Static load test                                 | 5      |         |        |        |         |        |
| 3.3.2               | Locking device and cable retention strength test | 6      |         |        |        |         |        |
| 3.3.9               | Lateral strength at low temperature              | 7      |         |        |        |         |        |
| 3.5.2               | Voltage drop test                                |        | 4<br>7  | 4<br>7 | 2<br>5 | 4<br>7  | 2<br>5 |
| 3.3.6               | Salt spray test                                  |        |         | 5      |        |         |        |
| 3.5.1               | Current carrying capacity test                   |        |         |        | 3      |         |        |
| 3.5.4               | Current cycling test                             |        |         |        | 4      |         |        |
| 3.5.3               | Flash test                                       |        | 5<br>9  | 6      |        | 5<br>11 | 3<br>6 |
| 3.6                 | Endurance test                                   |        |         |        |        | 6       |        |
| 3.3.5               | Vibration test                                   |        |         |        |        |         | 4      |
| 3.3.8               | Temperature/humidity test                        |        | 6       |        |        |         |        |
| 3.3.3               | Insertion and withdrawal force test: withdrawal  | 9      | 11      | 9      |        | 9       |        |
| 3.3.7               | Water splash test                                |        | 8       |        |        | 10      |        |

Page 7, subclause 4.3.5

Replace NOTE 5 with the following paragraph and figure 7.

During the vibration test as in 3.3.5, the resistance of the contacts monitored (connection resistance) shall not exceed 7  $\Omega$  for a period of more than 1  $\mu$ s (see figure 7).

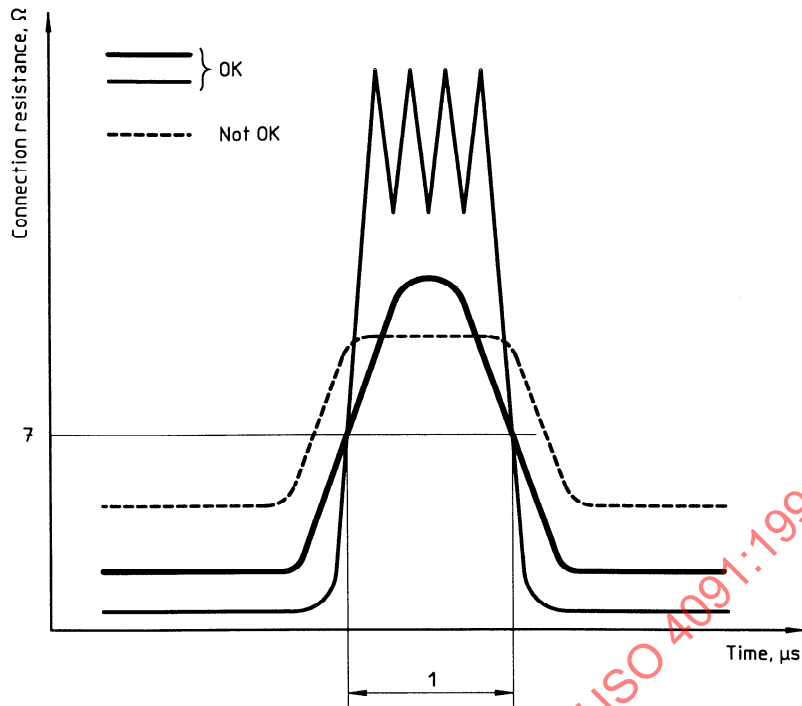


Figure 7 — Connection resistance at vibration

Page 7, subclause 4.4

Renumber NOTE 6 to be NOTE 5.

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