INTERNATIONAL STANDARD

ISO 11446

Second edition
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Passenger cars and light commercial vehicles with 12 V systems — 13-pole connectors between towing vehicles and trailers — Dimensions and contact allocation

Voitures particulières et véhicules utilitaires légers équipés d'un système électrique 12 V — Connecteurs à 13 contacts pour liaison entre le véhicule tracteur et le véhicule tracté — Dimensions et affectation des contacts

Reference number
ISO 11446:1995(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11446 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This second edition cancels and replaces the first edition (ISO 11446:1993): it has been aligned with other connector standards.

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Passenger cars and light commercial vehicles with 12 V systems — 13-pole connectors between towing vehicles and trailers — Dimensions and contact allocation

1 Scope

This International Standard specifies dimensions and specific requirements for the 13-pole connector and its contact allocation to enable electrical connection between passenger cars or light commercial vehicles and their trailers equipped with 12 V systems to be made and to ensure interchangeability.

It further specifies a park socket used to receive and store the plug when it is disconnected.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1103:1976, *Road vehicles — Caravans and light trailers — Coupling ball — Dimensional characteristics.*

ISO 4091:1992, *Road vehicles — Connectors for electrical connections between towing vehicles and trailers — Test methods and performance requirements.*

3 Dimensions and requirements

Dimensions and requirements of the socket, plug and park socket shall be in accordance with 3.1, 3.2 and 3.3 respectively.

The contacts shall be floating and shall align to the datum position when plug and socket are engaged.

Details not specified are at the manufacturer's discretion.

3.1 Socket

Dimensions and other requirements of the socket shall be as shown in figure 1.

The cover is shown in the open position: it shall close automatically when the plug is removed.

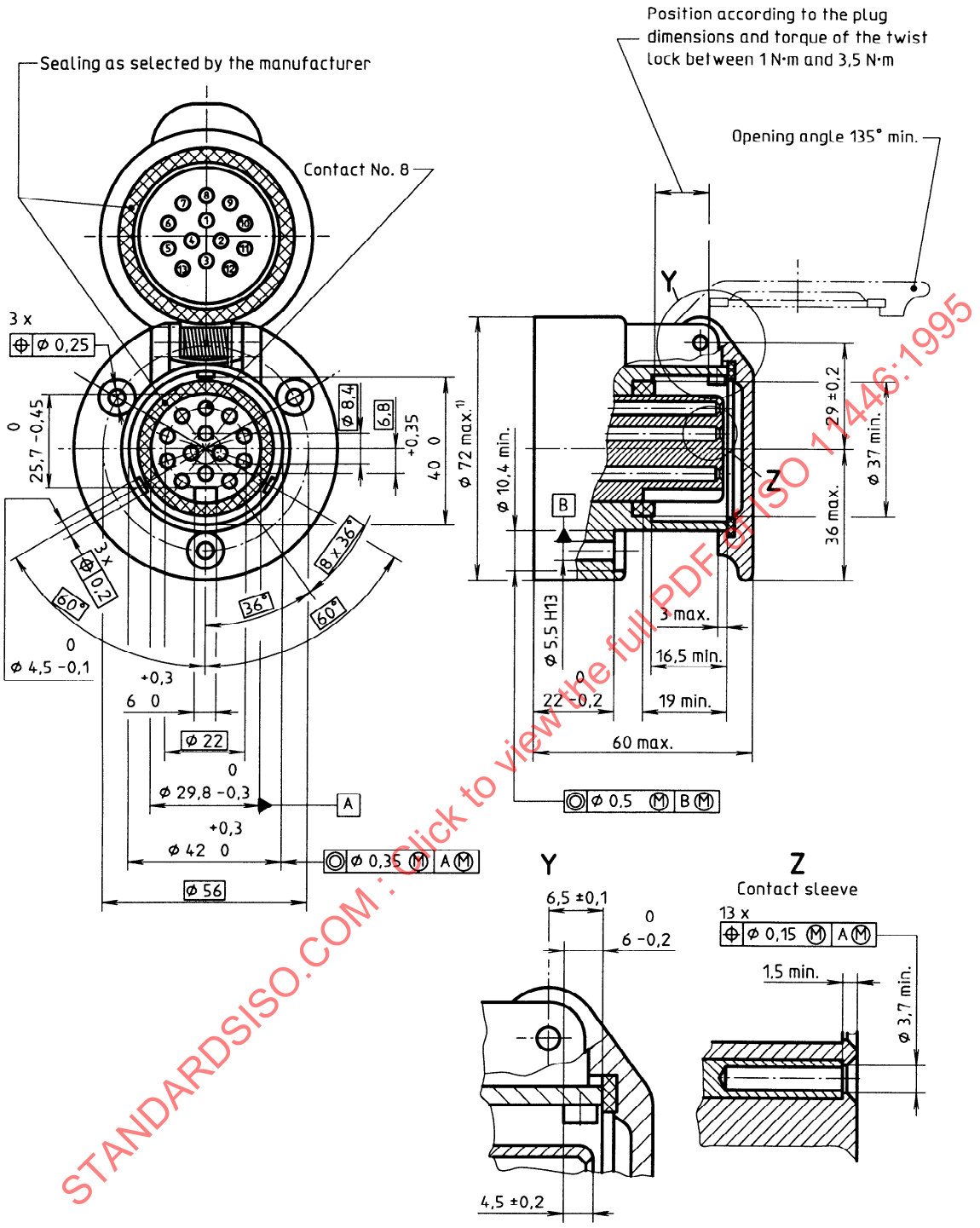
The contact designation numbers shall be permanently marked on the inside of the socket cover in numbers at least 2 mm high.

3.2 Plug

Dimensions and other requirements of the plug shall be as shown in figure 2.

The contact designation numbers shall be permanently marked on the terminal face, ideally in numbers at least 2 mm high, although reduced space available may require a smaller size.

Dimensions in millimetres



1) Other housing designs are permitted as the dimensions are within the maximum diameter.

Figure 1 — Socket

Dimensions in millimetres

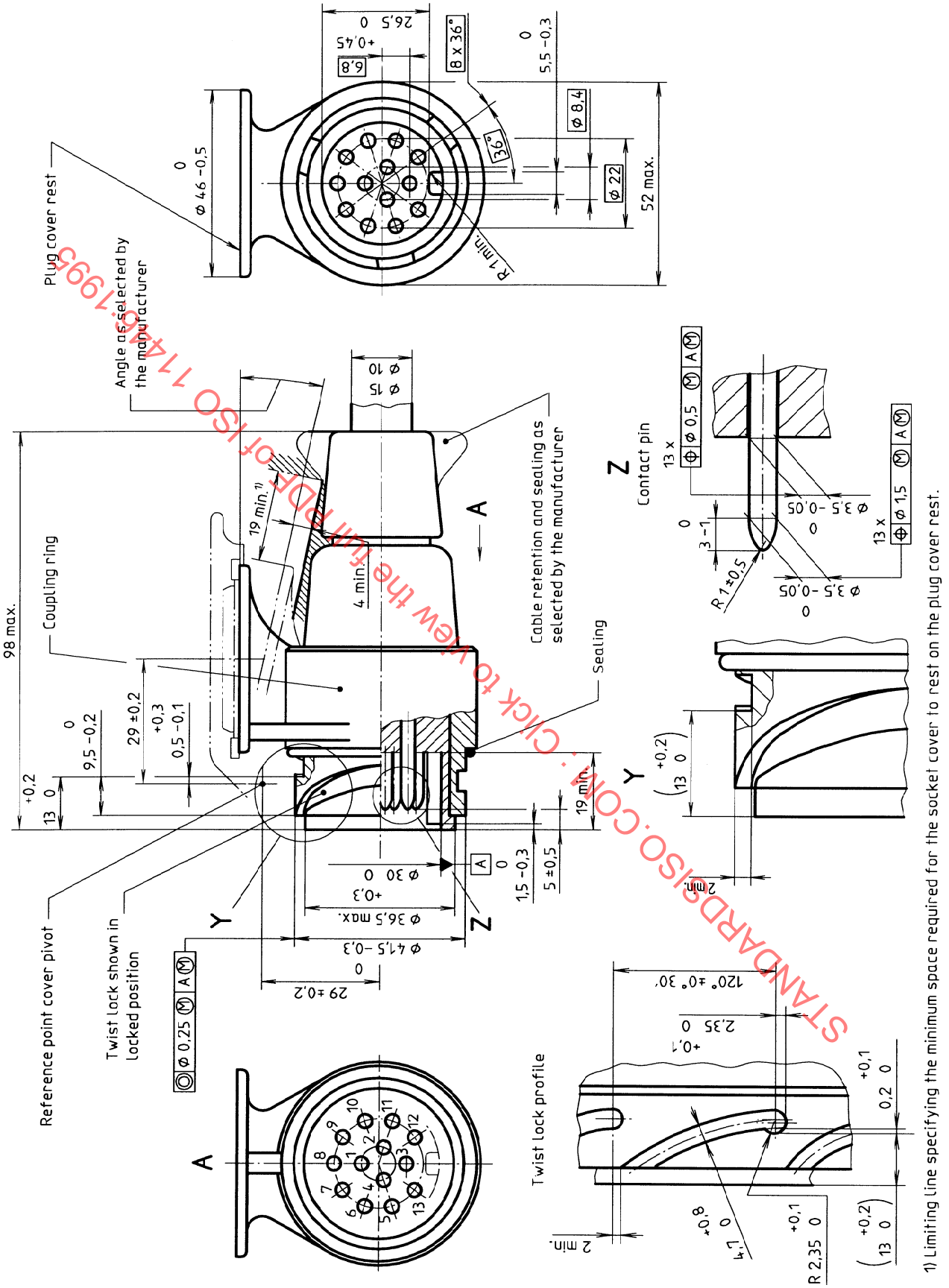


Figure 2 — Plug

3.3 Park socket

Dimensions and other requirements of the park socket shall be as shown in figure 3.

The cover is shown in the open position: it shall close automatically when the plug is removed.

4 Contact allocation

Contact allocation shall be as specified in table 1.

The terminals at the rear side of the pins and tubes shall be capable of accepting cables with the following nominal cross-sectional areas:

contacts 1, 2, 4, 5, 6, 7 and 8	1,5 mm^2
contacts 3, 9, 10, 11 and 13	2,5 mm^2

Table 1

Contact No.	Circuit
1	Left-hand direction indicator light
2	Rear fog light
3 [1)]	Common return for contacts Nos. 1 to 8
4	Right-hand direction indicator light
5	Right-hand rear position(s), right-hand end-outline marker lights, and rear registration-plate illumination device[2)]
6	Stop lights
7	Left-hand rear position(s), left-hand end-outline marker lights, and rear registration-plate illumination device[2)]
8	Reversing light
9	Continuous power supply
10	Power supply controlled by ignition switch
11 [1)]	Common return for contact No. 10
12	Coding for coupled trailer (on the plug, pin No. 12 shall be bridged to pin No. 3 to return to the towing vehicle the information whether a trailer is coupled or not)
13 [1)]	Common return for contact No. 9

1) The three common return circuits shall not be connected electrically in the trailer.

2) The rear registration-plate illumination device shall be connected such that no lamp of the device has a common connection with either contact 5 or 7.

Dimensions in millimetres

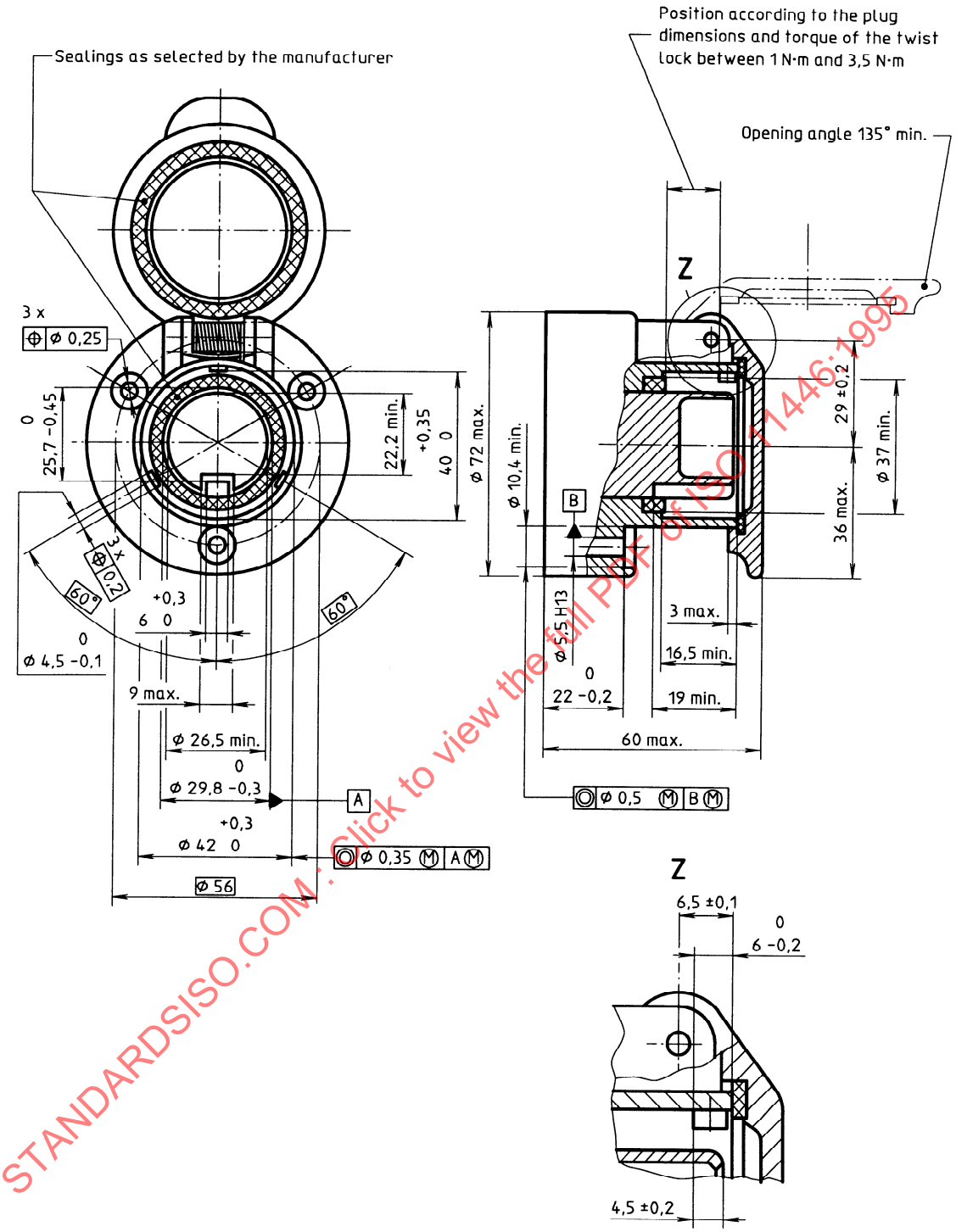


Figure 3 — Park socket

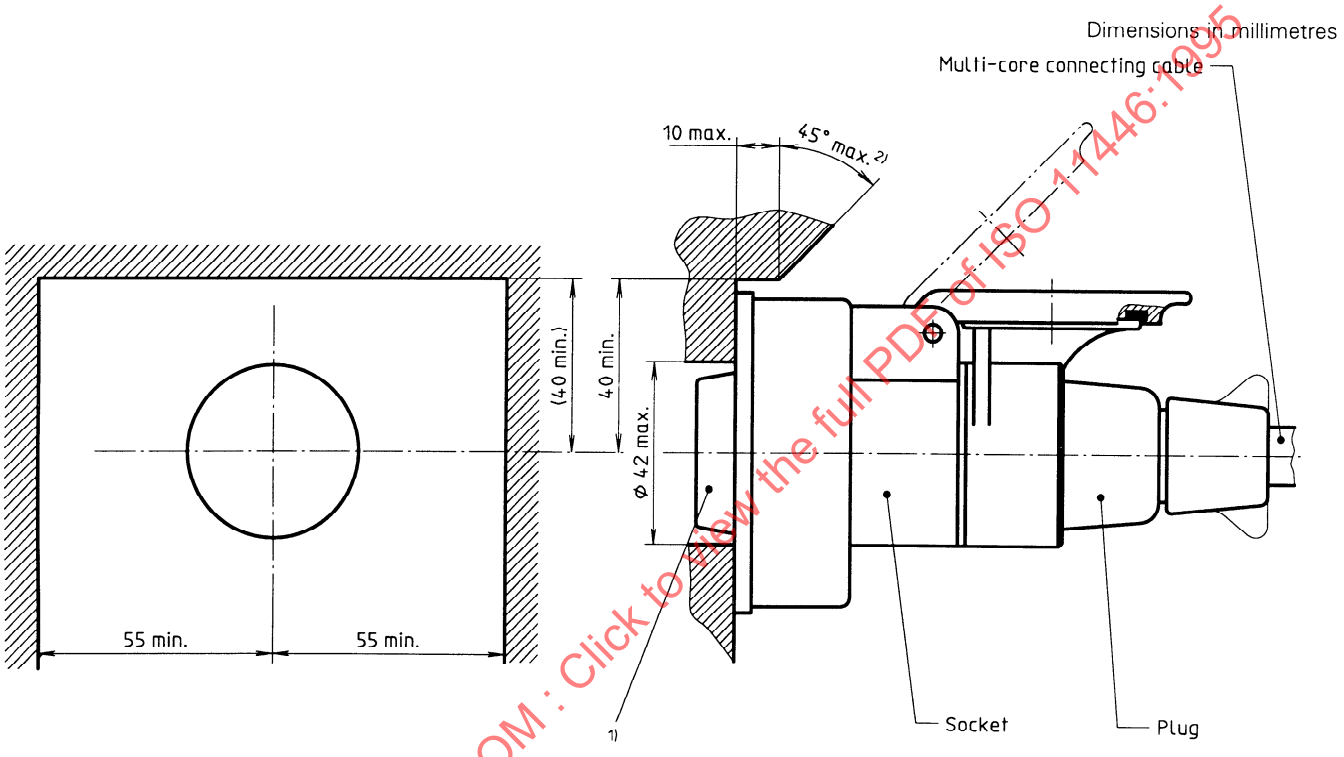
5 Vehicle mounting

5.1 When the connector is installed on the towing vehicle, its position shall comply with the dimensions necessary to ensure compatibility of mechanical coupling devices as specified in ISO 1103.

5.2 The minimum free space around the connector shall be as specified in figure 4.

6 Performance requirements

Connectors shall meet the performance requirements of ISO 4091.



1) Rear sealing and free space as selected by the manufacturer.
2) The angle of max. 45° shall extend across the horizontal free space.

Figure 4 — Free space

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