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Diesel engines- — Fuel injection pumps and fuel injector low-pressure connections—- —

Part- 2:
Non-threaded (push-on) connections

Moteurs diesels — Raccords basse pression pour pompes d'injection de combustible et porte-injecteurs de combustible complets —

Partie 2: Raccords non filetés (à pression)

PROOF

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Foreword

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This document was prepared by Technical Committee ISO/TC ~~022~~22, *Road vehicles*, Subcommittee SC 34, *Propulsion, powertrain and powertrain fluids*.

This fourth edition cancels and replaces the third edition (ISO 13948-2:2016), which has been technically revised.

The main changes are as follows:

— ~~—~~dimensional tolerances on forming parts were optimized~~,~~;

— ~~—~~language inclusivity was improved.

A list of all parts in the ISO 13948 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at ~~www.iso.org/members.html~~www.iso.org/members.html.

Introduction

There is a large variety of low-pressure connections on fuel injection equipment. These connections use different sealing principles and designs. This document specifies a common set of preferred types.

The ISO 13948 series is divided into two parts. ISO 13948-1 covers threaded connections. This document covers non-threaded (push-on) connections for use with low-pressure fuel supply and return, boost air pressure and lubricating oil supply and return.

Low-pressure connections to fuel filters are covered in ISO 7310, ISO 7311 and ISO 7654. High-pressure end-connections for pumps and injectors are covered in ISO 2974 and ISO 13296.

Diesel engines — Fuel injection pumps and fuel injector low-pressure connections —

Part 2: Non-threaded (push-on) connections

1 Scope

This document specifies requirements for the connection ends of push-on connections used with fuel injection equipment.

Three types of push-on connections (types A, B and C) are described in this document.

NOTE Low-pressure connections to fuel filters are covered in ISO 7310, ISO 7311, ISO 7576, and ISO 7654. High-pressure end-connections for pumps and injectors are covered in ISO 2974 and ISO 13296.

32 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 21920-3, *Geometrical product specifications (GPS) — Surface texture: Profile — Part 3: Specification operators*

43 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obphttps://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/https://www.electropedia.org/

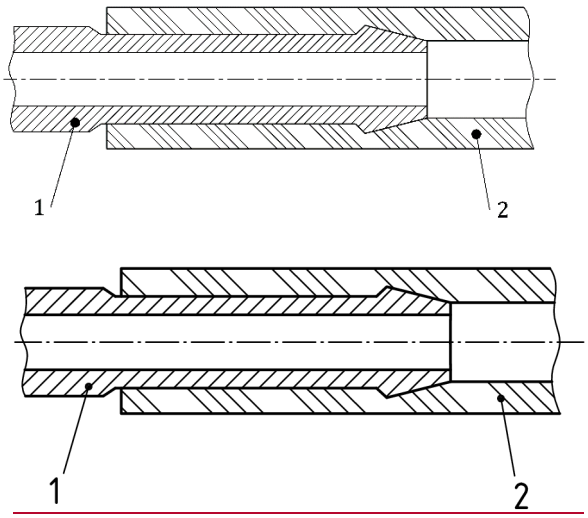
54 Connection designs and applications

5.14.1 Type A: Nipple connections

Figure 1Figure 1 gives an example of a nipple connection.

This design is intended for use directly with the mating hose (Figure 1,(Figure 1, label 2) or in conjunction with a retaining clip around the hose (not shown) for a more secure connection.

The nipple (Figure 1,(Figure 1, label 1) can be machined (see Figure 4),Figure 4), formed (see Figure 5Figure 5 and Figure 6)Figure 6) or moulded (see Figure 7).Figure 7).



Key

1 nipple

2 hose

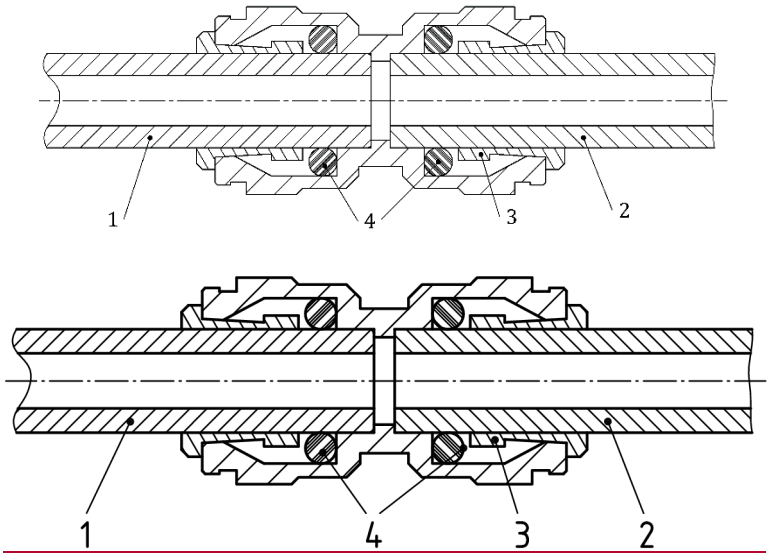
Figure 1- — Type A connection (principle)

~~5.2~~4.2 Type B: Stand pipe connections

~~Figure 2~~Figure 2 gives an example of a stand pipe connection.

This design is used in conjunction with proprietary push-on connections ~~(Figure 2,~~(Figure 2, label 3) attached to the mating hose ~~(Figure 2,~~(Figure 2, label 2) that seals by compressing ring seals ~~(Figure 2,~~(Figure 2, label 4) around the outside diameters of the stand pipe ~~(Figure 2,~~(Figure 2, label 1) and of the mating hose.

An identification may be applied to indicate to the user that the hose is fully engaged (see ~~Figure 10).~~Figure 10).



Key

1 stand pipe
2 hose
3 push-on connection
4 ring seals

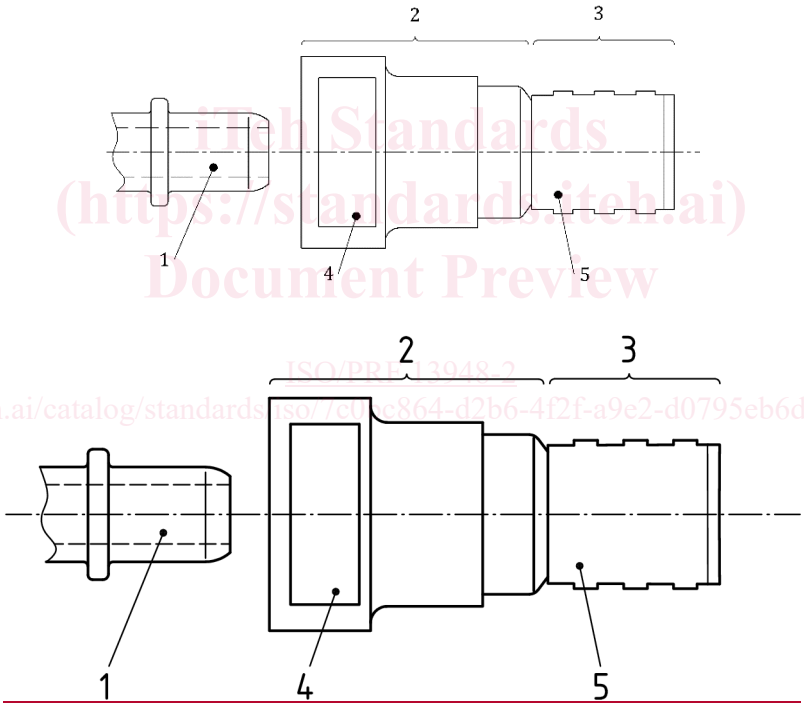
Figure 2 — Type B connection (principle)

5.34.3 Type C: Quick connector coupling connections

Figure 3Figure 3 gives an example of a quick connector coupling connection. Type C connections are specified in Reference [8]. [7].

This design is used in conjunction with proprietary push-on quick connector couplings attached to the mating plug tube end form. The quick connector coupling contains one or more O-ring seals to seal along the outer surface of the plug tube end, and a latching device to engage with the collar diameter feature.

The plug tube end form is shown in Figure 11Figure 11 and the dimensions are defined in Table 4Table 4 and Table 5.Table 5.



Key
1 plug tube end
2 socket end
3 stem
4 quick connector coupling
5 section of hose or tube

Figure 3 — Type C connection (principle)

65 Dimensions and surface quality

6.15.1 Type A connection ends

6.1.15.1.1 Nipple types

6.1.1.15.1.1.1 Nipple, machined, type A.1

See Figure 4Figure 4 for an example of a type A.1 connection.

See Table 1Table 1 for the parameters.

Dimensions in millimetres

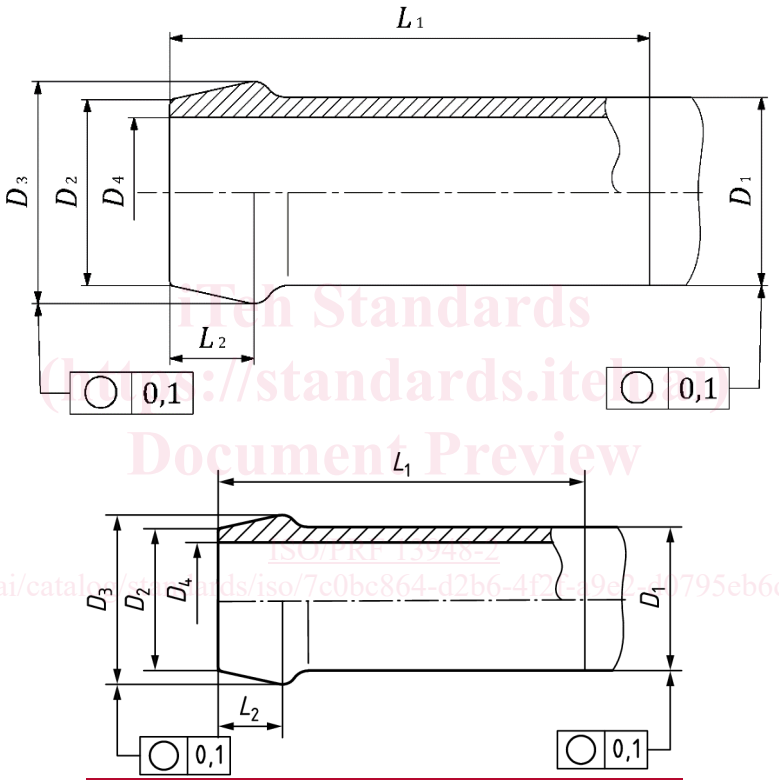


Figure 4 — Nipple, type A.1

6.1.1.25.1.1.2 Nipple, formed, type A.2

6.1.1.2.15.1.1.2.1 Nipple, bulge, type A.2.1

See Figure 5Figure 5 for an example of a type A.2.1 connection

See Table 1Table 1 for the parameters.