

Second edition  
2011-03-15

**AMENDMENT 1**  
2015-11-01

---

---

**Safety and control devices for  
gas burners and gas-burning  
appliances — General requirements**

**AMENDMENT 1**

*Dispositifs de commande et de sécurité pour brûleurs à gaz et  
appareils à gaz — Exigences générales*

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

AMENDEMENT 1

ISO 23550:2011/Amd 1:2015

<https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-f3df-4072-b080-a33a21faad5d/iso-23550-2011-amd-1-2015>



Reference number  
ISO 23550:2011/Amd.1:2015(E)

© ISO 2015

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[ISO 23550:2011/Amd 1:2015](https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-a33a21faad5d/iso-23550-2011-amd-1-2015)  
<https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-a33a21faad5d/iso-23550-2011-amd-1-2015>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 161, *Control and protective devices for gas and/or oil burners and appliances*.

[ISO 23550:2011/Amd 1:2015](http://standards.iteh.ai/catalog/standards/sist/f7e79c6d-f3df-4072-b080-a33a21faad5d/iso-23550-2011-amd-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-f3df-4072-b080-a33a21faad5d/iso-23550-2011-amd-1-2015>

## **Introduction**

ISO 23550 and the relevant product standards of ISO/TC 161 specify certain types of gas connectors, such as threads or flanges.

In the gas appliance industry, additional types of connectors for connection inside the appliance are used for connecting gas controls and pipes together. These types of connectors are called “Gas quick connectors” (GQCs). With these types of quick connectors both production and maintenance for appliances are possible.

These types of GQCs have regionally been used for many years in large quantities.

## **iTeh STANDARD PREVIEW (standards.iteh.ai)**

[ISO 23550:2011/Amd 1:2015](https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-a33a21faad5d/iso-23550-2011-amd-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-a33a21faad5d/iso-23550-2011-amd-1-2015>

# Safety and control devices for gas burners and gas-burning appliances — General requirements

## AMENDMENT 1

### *Page 1, Scope*

Add the following paragraphs:

This International Standard is also applicable to Gas Quick Connectors (GQC) for use inside appliances with connections up to, and including DN 25, and a maximum pressure up to, and including 100 kPa.

This International Standard is applicable to

- tube to tube connections,
- tube to control connections, and
- tube to fitting connections.

### *Page 2, Terms and definitions*

Add the following new terms and definitions:

#### 3.18

##### **gas quick connector**

##### **GQC**

connector consisting of fastener, socket, plug and seal

#### 3.19

##### **GQC fastener**

clip retaining the connection of plug and socket

#### 3.20

##### **GQC socket**

outside part of GQC

#### 3.21

##### **GQC plug**

inside part of GQC

#### 3.22

##### **GQC seal**

gas seal between the socket and the plug

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

[ISO 23550:2011/Amd 1:2015](https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-a33e21fa15d/iso-23550-2011-amd-1-2015)

[https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-](https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-a33e21fa15d/iso-23550-2011-amd-1-2015)

[a33e21fa15d/iso-23550-2011-amd-1-2015](https://standards.iteh.ai/catalog/standards/sist/f7e79c6d-3df-4072-b080-a33e21fa15d/iso-23550-2011-amd-1-2015)

Page 5, Subclause 6.4, Gas connections

Add the following subclause:

**6.4.9 Gas connection by GQC**

Shall be according to Annex H.

Page 41

Add the following normative Annex H “Gas quick connectors”.

**Annex H**  
(normative)  
**Gas quick connector (GQC)**

**H.4 Classification**

**H.4.2 Group of control**

GQCs shall be classified as group 1 connections.

**H.6 Construction**

**H.6.4 Gas connection**

6.4.1 to 6.4.8 are not applicable.

Add the following new subclause:

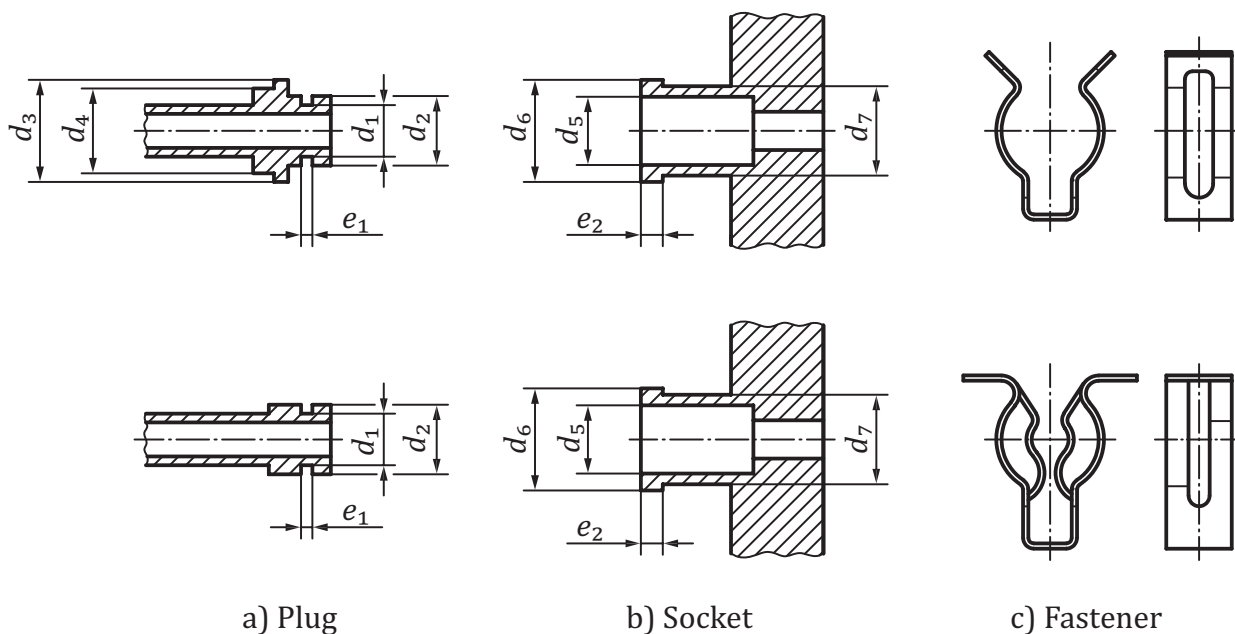
Gas quick connector

Gas quick connects that can be disassembled without tools shall only be used in restricted access areas, which shall be specified in the operating and installation instructions (see 9.2).

Examples of GQC are given in [Figure H.1](#).

iTech STANDARD PREVIEW  
(standards.itech.ai)

ISO 23550:2011/Amd.1:2015  
<https://standards.itech.ai/catalog/standards/sist/f7e79c6d-fd4f-4672-b080-a33a21faad5d/iso-23550-2011-amd-1-2015>



**Key**

- $d_1$  diameter outside of the plug for the GQC seal
  - $d_2$  diameter outside of the plug for insertion into the socket
  - $d_3$  diameter outside of the plug for retaining of the fastener\*1
  - $d_4$  diameter outside of the plug for the base of the fastener
  - $e_1$  width of channel in the plug for the GQC seal
  - $d_5$  diameter inside of the socket
  - $d_6$  diameter outside of the socket for retaining of the fastener\*1
  - $d_7$  diameter outside of the socket for the base of the fastener
  - $e_2$  width of projection of the socket for retaining the fastener
- Dimension  $d_3$  of plugs and dimension  $d_6$  of sockets are the same.

NOTE Both sockets under b) are identical. For illustrative purposes they are shown together with the plug and the fastener.

**Figure H.1 — Examples for GQC**

**H.7 Performance**

**H.7.2 Leak-tightness**

Shall be according to 7.2 with the following addition:

The test is carried out before and after the assembly test of 7.3.4.6.

**H.7.2.2.3 Internal leak-tightness**

7.2.2.3 is not applicable.

**H.7.3 Torsion and bending**

**H.7.3.2 Torsion**

Shall be according 7.3.2 with the following addition:

The torque requirement is not applicable in the case of a torque applied to the GQC, plug and socket which can freely turn around each other.

**H.7.3.3 Bending moment**

7.3.3 is replaced by the following.

GQC shall meet leakage requirements of 7.2.2 before, during, and after the test, as specified in H.7.3.4.5.

**H.7.3.4 Torsion and bending test**

Add the following two subclauses to 7.3.4:

H.7.3.4.1 General

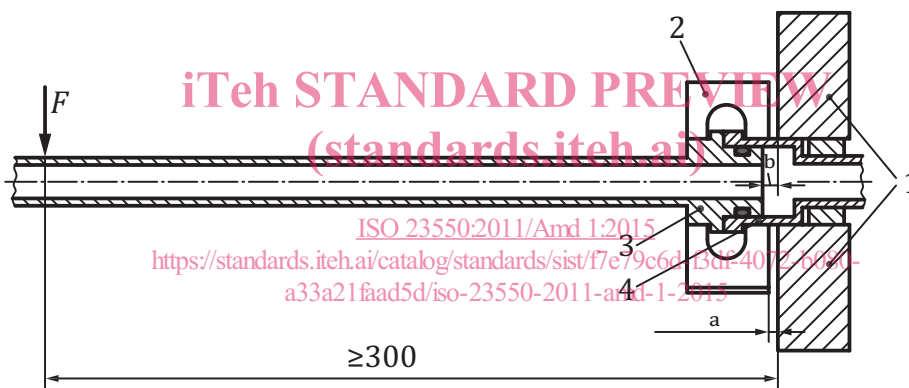
7.3.4.1 is replaced by the following:

GQC which are part of the control are tested under the same conditions as valid for that control.

For tube-to-tube and fitting-to-tube connections, the following applies:

Use the GQC, with the assembly, as shown in [Figure H.2](#).

Dimensions in millimetres



**Key**

- 1 fixture
- 2 fastener
- 3 plug
- 4 socket
- F force
- a A clearance (see “a”) shall be provided between the fixture and the fastener to prevent contact between the two parts which would impact results. This clearance is not required if the socket is integral to a control body.
- b A clearance (see “b”) between the fixture and the face of the plug during the bending-moment test.

**Figure H.2 — Bending-moment test assembly for pipe-to-pipe connection (clamping on the connector part)**

**H.7.3.4.5 900-s bending-moment test — Group 1 controls only**

Shall be according to 7.3.4.5 with the following modification:

For pipe to pipe connections replace Table 4 by [Table H.1](#).



**Table H.1 — Bending moment**

Diameter nominal, DN	Bending moment N m
6	10
8	10
10	10
15	25
20	25
25	25

Apply force for the required bending moment given in [Table H.1](#), taking the mass of the pipe into account.

Apply force at the point of greater than or equal to 300 mm from the fixture.

Remove force and visually inspect the GQC for deformation and verify that the clearance 'a' of [Figure H.2](#) shall be maintained, then test the GQC for external leak-tightness, in accordance with 7.2.2.2.

#### H.7.3.4.6 Assembly test

The clamping force/removing force shall be tested based on the following conditions:

Disassemble and re-assemble the GQC connection 30 times.

Remove fastener and visually inspect the GQC parts for deformation and damage, then reassemble the GQC and test for external leak-tightness in accordance with 7.2.2.2.

#### H.7.3.4.7 Tensile test

Use the fastener with the assembly, as shown in [Figure H.3](#). Apply force for the required tensile strength according to [Table H.2](#), taking the mass of the rod into consideration.

**Table H.2 — Tensile test**

DN size	Force N
6	6
8	10
10	16
15	33
20	67
25	100

Remove force and then verify the fastener is still in place and functional and check for deformation of the fastener.