

INTERNATIONAL STANDARD



**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –
Part 2-10: Tests – Crush and load resistance**

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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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INTERNATIONAL STANDARD



**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –
Part 2-10: Tests – Crush and load resistance**

INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –
BASIC TEST AND MEASUREMENT PROCEDURES –****Part 2-10: Tests – Crush and load resistance**

FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 61300-2-10:2012. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 61300-2-10 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics. It is an International Standard.

This third edition cancels and replaces the second edition published in 2012.

This edition includes the following significant technical changes with respect to the previous edition:

- a) addition of testing an evenly distributed static load applied on the top surface of a street cabinet;
- b) addition of testing a static load applied to a street cabinet door;
- c) addition of descriptions to perform the test at a specified temperature other as specified in the standard atmospheric conditions and addition of test temperature(s) in Table 1;
- d) update of the severities according to IEC 61753-1:2018.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
86B/4405/FDIS	86B/4435/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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- withdrawn,
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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 2-10: Tests – Crush and load resistance

1 Scope

This part of IEC 61300 evaluates the effect of loads which ~~might~~ is possible to occur when fibre optic devices are exposed to critical situations such as being stepped on ~~or~~ being run over by vehicle tyres, when an evenly-distributed static load is applied to the top surface of a street cabinet or when a load is applied to a street cabinet's open door.

2 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.

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

IEC 61300-2-38, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-38: Tests – Sealing for pressurized fibre optic closures*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

IEC 61753-1, *Fibre optic interconnecting devices and passive components – Performance standard – Part 1: General and guidance*

3 Terms and definitions

No terms and definitions are listed in this document.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 General description

The device under test (DUT) is exposed to a static compressive load which is applied by a pad.

5 Apparatus

5.1 General

~~The apparatus consists of the following elements (Figure 1).~~

Depending on the DUT type, the apparatus consists of:

- for connectors, passive components, hardened connectors and closures (see Figure 1);
- for an evenly distributed static load applied to the top surface of a street cabinet (see Figure 2 and Figure 3);
- for a static load applied to a street cabinet door (see Figure 4 and Figure 5). The force shall be applied on top of an open door at the point which creates the highest moment on the hinge of the door.

5.2 Plate or ground

~~A 10 mm thick steel plate large enough for the whole DUT or as specified in the relevant specification. The plate is placed on a non-yielding surface. The plate has rounded edges.~~

For the crush apparatus shown in Figure 1, a minimum 10 mm thick plate using steel or material with comparable hardness, large enough for the whole DUT, or as specified in the relevant specification, is required. The plate is placed on a non-yielding surface. The plate has rounded edges.

For the apparatus for an evenly distributed static load applied to the top surface of a street cabinet shown in Figure 2 and Figure 3 and for a static load applied to a street cabinet door shown in Figure 4 and Figure 5, the street cabinet shall be fixed securely to firm ground.

5.3 Pad

~~A 10 mm thick steel pad, size as Table 1, or as specified in the relevant specification, bonded to a non-yielding plate. The pad has rounded edges.~~

A pad with a minimum thickness of 10 mm, made of steel or a material with comparable hardness, and with rounded edges fixed to a non-yielding plate is required. The pad shall have a diameter of 5,6 cm (equals to a surface of 25 cm²) and contacts the DUT with its flat circular surface, except for the load test with an evenly distributed static load applied to the top surface of a street cabinet.

5.4 Force generator

The force generator may be any device or apparatus capable of smoothly applying the specified load at the specified rate.

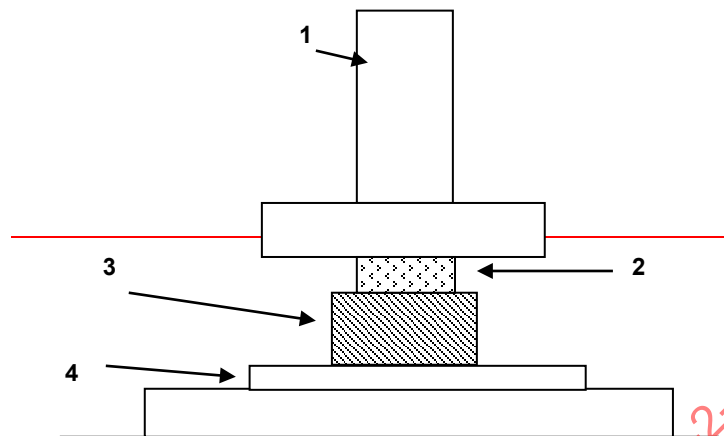
5.5 Gauge

The gauge shall be a suitable instrument for measuring the load applied to the DUT.

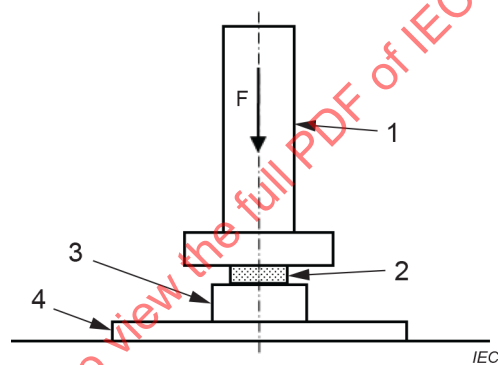
5.6 Temperature chamber

If the test has to be performed at another temperature than ambient, then a temperature chamber of appropriate size and a temperature sensing device shall be used. The

temperature chamber shall be able to accommodate the DUT, the pad and the force generator, and maintain the specified temperature within $\pm 2\text{ }^{\circ}\text{C}$.

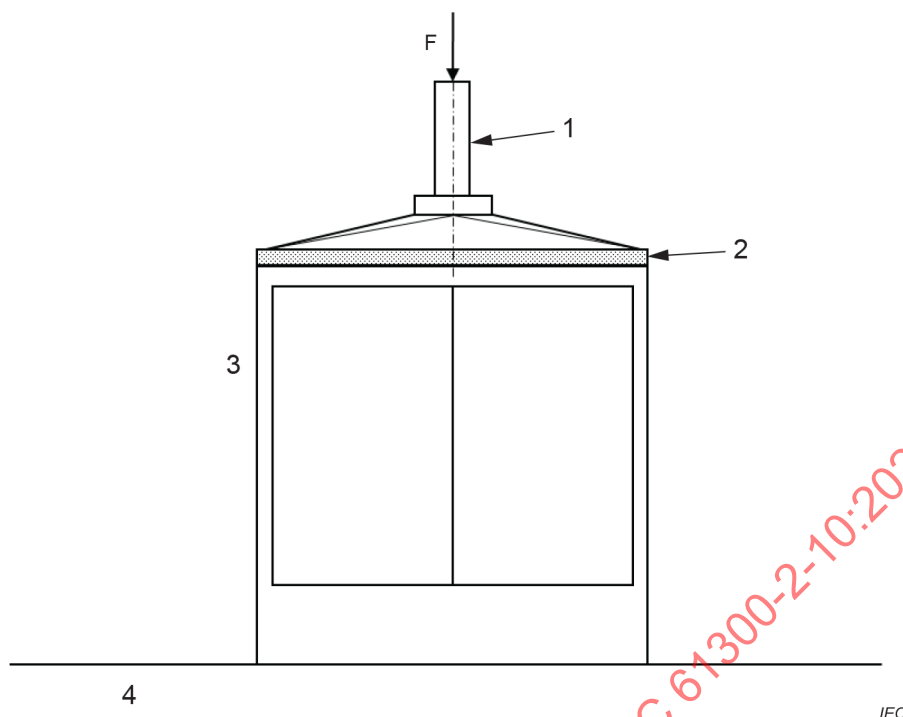


IEC 1602/12

**Key**

- 1 force generator and gauge
- 2 pad
- 3 device under test
- 4 plate
- F direction of force

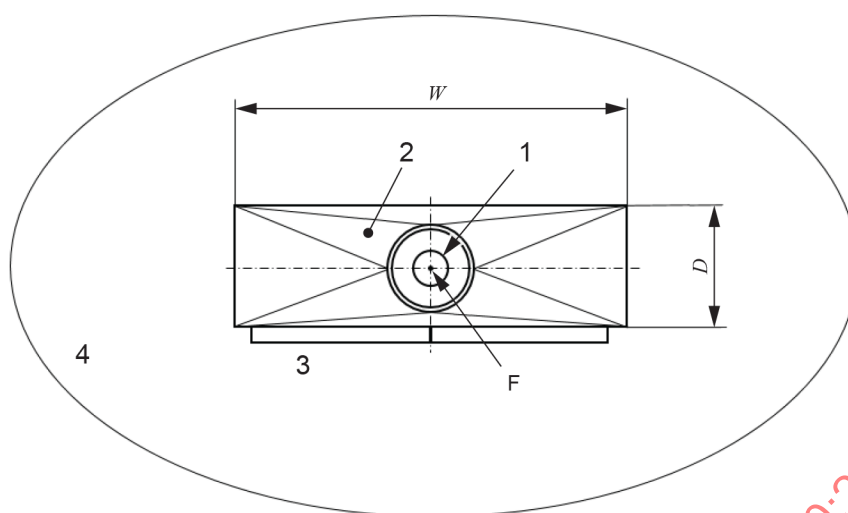
Figure 1 – Crush Apparatus



Key

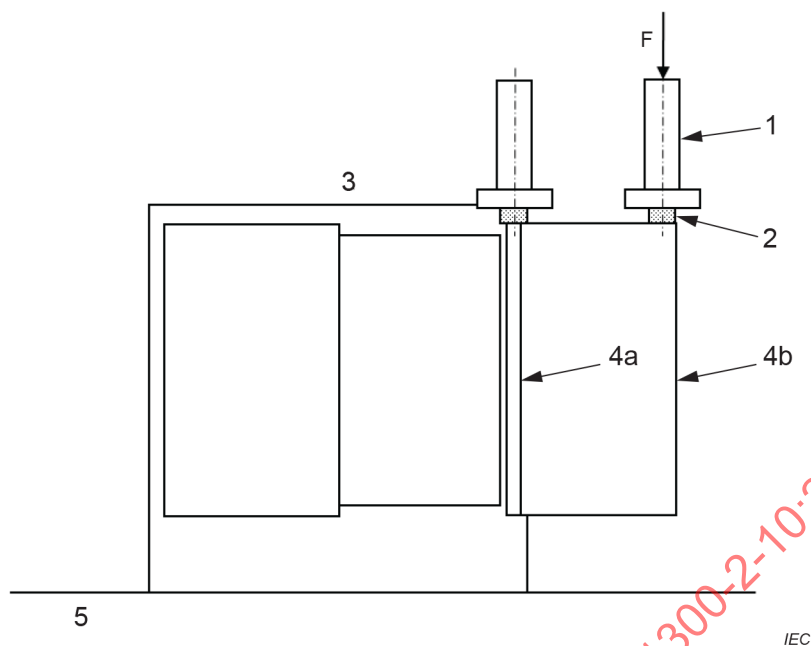
- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 ground
- F direction of force

Figure 2 – Apparatus for an evenly distributed load applied to the top surface of a street cabinet – Front view

**Key**

- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 ground
- F axis of force
- D depth (example of a street cabinet)
- W width (example of a street cabinet)

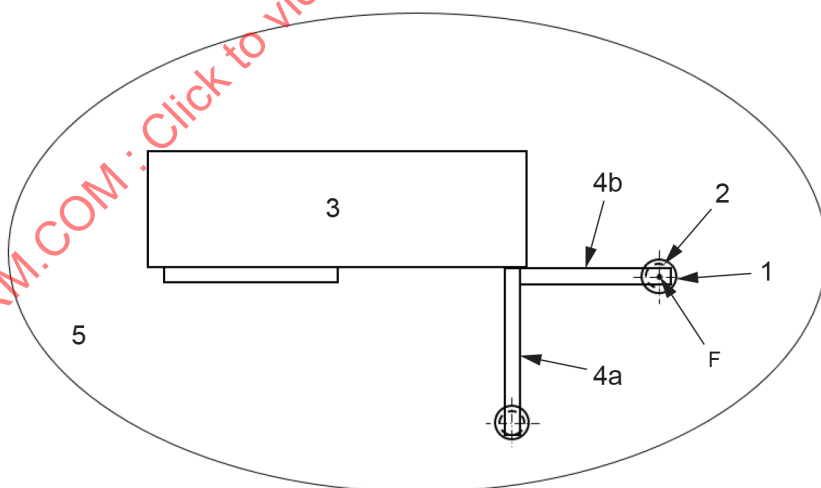
Figure 3 – Apparatus for an evenly distributed load applied to the top surface of a street cabinet – Top view



Key

- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 open door of device under test (4a – 90° open, or 4b – maximum opening in normal use or at 180° if no locking position)
- 5 ground
- F direction of force

Figure 4 – Apparatus for load applied to a street cabinet door – Front view



Key

- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 open door of device under test (4a – 90° open, or 4b – maximum opening in normal use or at 180° if no locking position)
- 5 ground
- F direction of force

Figure 5 – Apparatus for load applied to a street cabinet door – Top view

6 Procedure

6.1 DUT preparation

Prepare the DUT in accordance with the relevant specification. Unless otherwise specified, the DUT shall be subjected to the crush resistance test in a non-operational mode.

Clean the optical and mechanical parts of the DUT according to the manufacturer's instructions.

6.2 Pre-conditioning

Unless otherwise specified, pre-condition each prepared closure or street cabinet DUT for at least 4 h and each prepared connector, hardened connector or passive component DUT for at least 2 h at the standard ~~test~~ atmospheric conditions specified in IEC 61300-1.

6.3 Initial examination and measurements

The DUT shall be visually inspected, optically measured and mechanically checked as required by the relevant specification. The DUT shall be visually inspected according to IEC 61300-3-1. Measure the attenuation and return loss according to IEC 61300-3-4 and IEC 61300-3-6, respectively. For sealed closures, verify the overpressure according to IEC 61300-2-38.

6.4 Device mounting

~~Position the DUT centrally on the test surface contained in the shallow box.~~

Position the DUT as shown in Figure 1, Figure 2 and Figure 3, or Figure 4 and Figure 5.

6.5 Conditioning

a) ~~Place the pad over the DUT.~~

If another test temperature as in the standard atmospheric conditions is specified, then condition each prepared closure or street cabinet DUT for at least 4 h and each prepared connector, hardened connector or passive component DUT for at least 2 h at the specified test temperature inside a temperature chamber.

b) Smoothly apply the specified load at the specified rate to the pad.

c) Maintain the load for the specified duration.

d) Remove the load.

6.6 Recovery

If the DUT was tested at another test temperature as defined in the standard atmospheric conditions, then allow the closure or street cabinet DUT for at least 4 h and the connector, hardened connector or passive component DUT for at least 2 h to recover at standard atmospheric conditions specified in IEC 61300-1, unless otherwise specified in the relevant specification.

6.7 Final examinations and measurements

~~Upon completion of the test, the DUT shall be examined and all necessary observations recorded as specified in the relevant specification. Careful attention shall be given to the loss of optical continuity (where tested, use IEC 61300-3-4 and IEC 61300-3-6), broken parts (IEC 61300-3-1), and damage to seals (IEC 61300-2-38).~~

Upon completion of the test, the DUT shall be examined and all necessary observations recorded as specified in the relevant specification. Inspect visually according to

IEC 61300-3-1. Measure the attenuation and return loss according to IEC 61300-3-4 and IEC 61300-3-6, respectively. For sealed closures, carry out the sealing test by IEC 61300-2-38.

7 Severity

~~The severity consists of the combination of the load, load area and the duration. The severity shall be specified in the relevant specification or taken from the table below.~~

The severity of the test is dependent upon the magnitude of the load and load area and to a lesser extent to the rate of load application and the duration of the specified load. The severity shall be specified in the relevant specification or taken from Table 1.

Table 1 – Severities

Severity	Load N	Pad area	Duration s
Closures	1 000 ± 50	25 cm ²	600
Connectors for industrial environment	750 ± 50	25 cm ²	60

Product type	Performance category ^a	Load N	Rate of load N/s	Duration s	Test temperature °C	Apparatus
Connectors and passive components	I	2 200 ± 50	100	60	standard ^b	Figure 1
Hardened connectors	G and S	1 000 ± 50	50	600	-15 °C and +45 °C	Figure 1
Closures	G and S	1 000 ± 50	50	600	-15 °C and +45 °C	Figure 1
Load evenly distributed on top surface of a street cabinet	A	750 (Pa) × W (m) × D (m)	50	600	-15 °C and +45 °C	Figure 2 and Figure 3
Load applied to a street cabinet door	A	200	10	600	standard ^b	Figure 4 and Figure 5
^a The acronyms for the performance categories are according to IEC 61753-1.						
^b Standard atmospheric conditions according to IEC 61300-1.						

8 Details to be specified

The following details, as applicable, shall be specified in the relevant specification:

~~— representative ground or floor surface~~

- load;
- pad area;
- rate of application of load;
- duration of load;
- test temperature(s);
- DUT orientation;
- DUT optically functioning or non-functioning;
- DUT mated or unmated;
- pre-conditioning procedure;

- number of load applications;
- post-conditioning procedure;
- initial examinations and measurements and performance requirements;
- examinations and measurements during test and performance requirements;
- final examinations and measurements and performance requirements.

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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –
Part 2-10: Tests – Crush and load resistance**

**Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures –
Partie 2-10: Essais – Résistance à la compression et à la charge**

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**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –
BASIC TEST AND MEASUREMENT PROCEDURES –****Part 2-10: Tests – Crush and load resistance****FOREWORD**

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- b) addition of testing a static load applied to a street cabinet door;
- c) addition of descriptions to perform the test at a specified temperature other as specified in the standard atmospheric conditions and addition of test temperature(s) in Table 1;

d) update of the severities according to IEC 61753-1:2018.

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 2-10: Tests – Crush and load resistance

1 Scope

This part of IEC 61300 evaluates the effect of loads which is possible to occur when fibre optic devices are exposed to critical situations such as being stepped on, being run over by vehicle tyres, when an evenly-distributed static load is applied to the top surface of a street cabinet or when a load is applied to a street cabinet's open door.

2 Normative references

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IEC 61300-2-38, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-38: Tests – Sealing for pressurized fibre optic closures*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

IEC 61753-1, *Fibre optic interconnecting devices and passive components – Performance standard – Part 1: General and guidance*

3 Terms and definitions

No terms and definitions are listed in this document.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 General description

The device under test (DUT) is exposed to a static compressive load which is applied by a pad.

5 Apparatus

5.1 General

Depending on the DUT type, the apparatus consists of:

- for connectors, passive components, hardened connectors and closures (see Figure 1);
- for an evenly distributed static load applied to the top surface of a street cabinet (see Figure 2 and Figure 3);
- for a static load applied to a street cabinet door (see Figure 4 and Figure 5). The force shall be applied on top of an open door at the point which creates the highest moment on the hinge of the door.

5.2 Plate or ground

For the crush apparatus shown in Figure 1, a minimum 10 mm thick plate using steel or material with comparable hardness, large enough for the whole DUT, or as specified in the relevant specification, is required. The plate is placed on a non-yielding surface. The plate has rounded edges.

For the apparatus for an evenly distributed static load applied to the top surface of a street cabinet shown in Figure 2 and Figure 3 and for a static load applied to a street cabinet door shown in Figure 4 and Figure 5, the street cabinet shall be fixed securely to firm ground.

5.3 Pad

A pad with a minimum thickness of 10 mm, made of steel or a material with comparable hardness, and with rounded edges fixed to a non-yielding plate is required. The pad shall have a diameter of 5,6 cm (equals to a surface of 25 cm²) and contacts the DUT with its flat circular surface, except for the load test with an evenly distributed static load applied to the top surface of a street cabinet.

5.4 Force generator

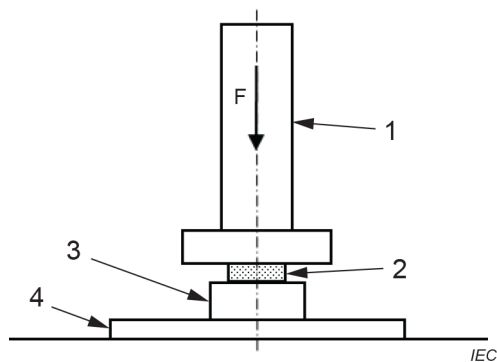
The force generator may be any device or apparatus capable of smoothly applying the specified load at the specified rate.

5.5 Gauge

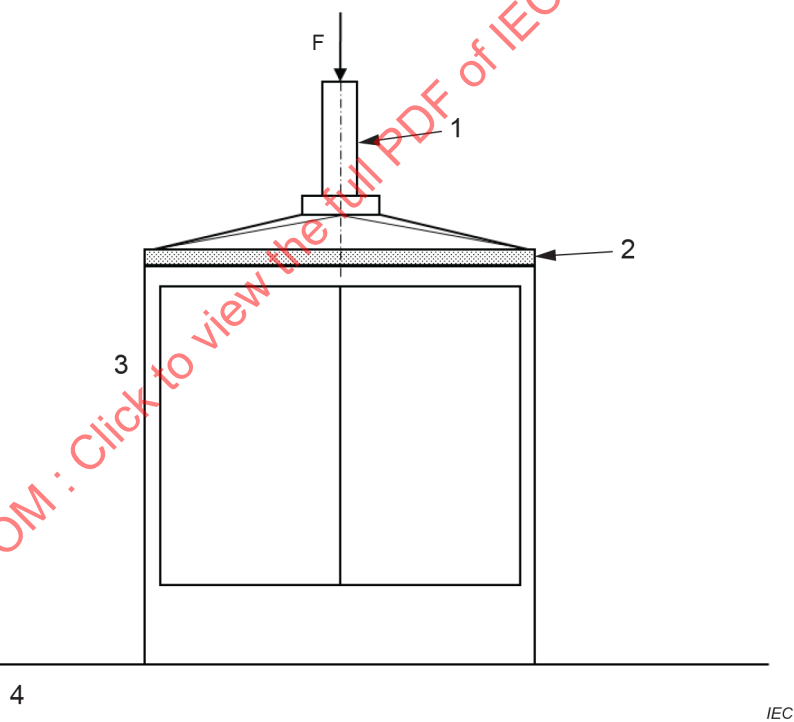
The gauge shall be a suitable instrument for measuring the load applied to the DUT.

5.6 Temperature chamber

If the test has to be performed at another temperature than ambient, then a temperature chamber of appropriate size and a temperature sensing device shall be used. The temperature chamber shall be able to accommodate the DUT, the pad and the force generator, and maintain the specified temperature within ± 2 °C.

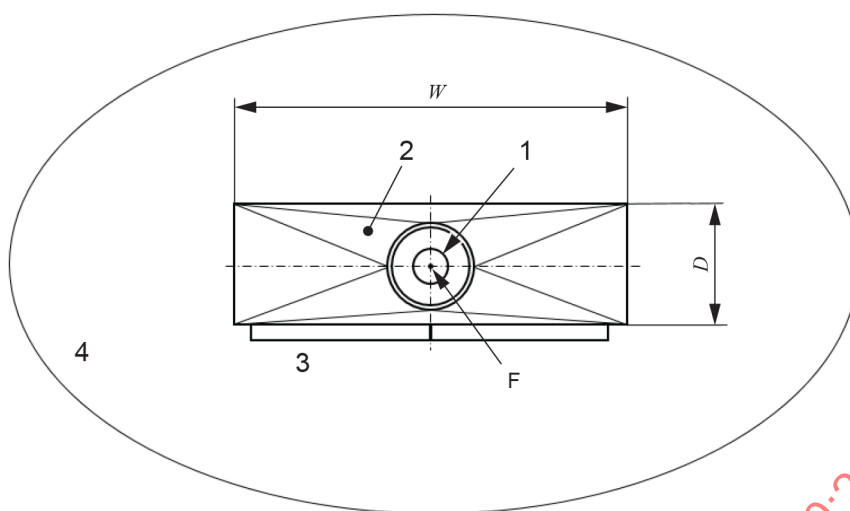
**Key**

- 1 force generator and gauge
- 2 pad
- 3 device under test
- 4 plate
- F direction of force

Figure 1 – Crush apparatus**Key**

- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 ground
- F direction of force

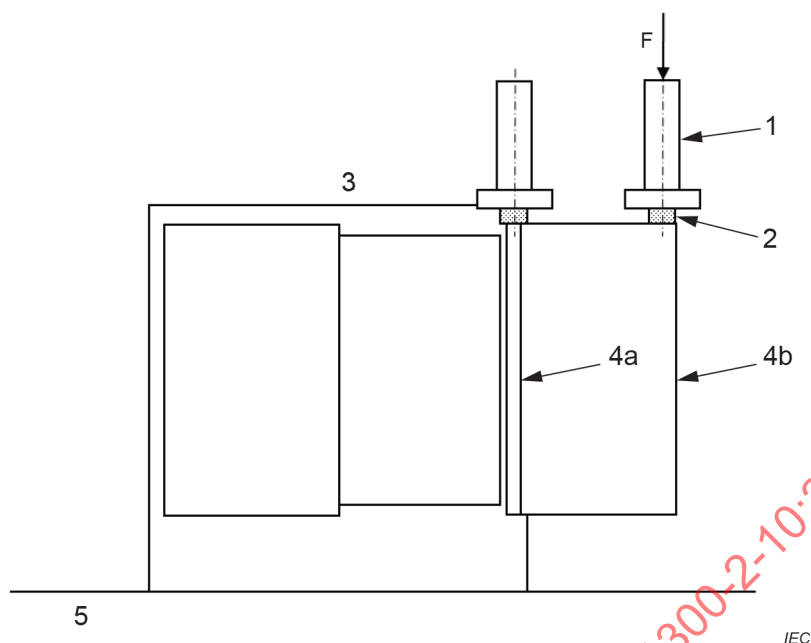
Figure 2 – Apparatus for an evenly distributed load applied to the top surface of a street cabinet – Front view



Key

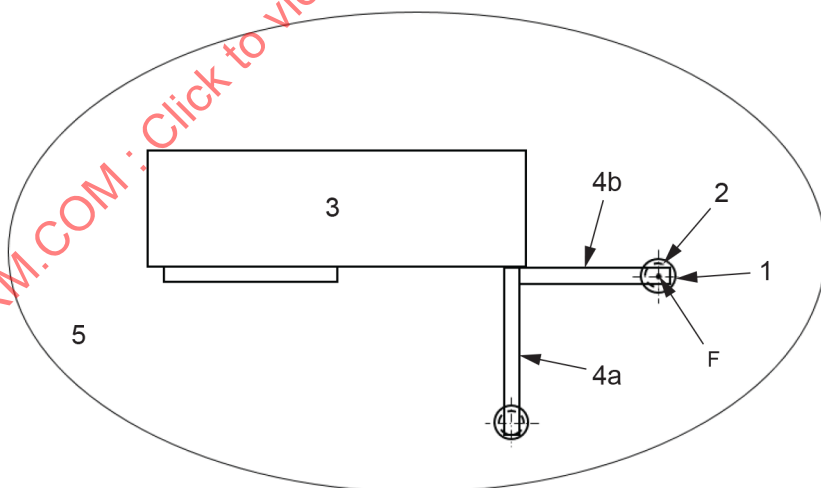
- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 ground
- F axis of force
- D depth (example of a street cabinet)
- W width (example of a street cabinet)

Figure 3 – Apparatus for an evenly distributed load applied to the top surface of a street cabinet – Top view

**Key**

- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 open door of device under test (4a – 90° open, or 4b – maximum opening in normal use or at 180° if no locking position)
- 5 ground
- F direction of force

Figure 4 – Apparatus for load applied to a street cabinet door – Front view

**Key**

- 1 force generator and gauge
- 2 pad
- 3 device under test (example of a street cabinet with two doors)
- 4 open door of device under test (4a – 90° open, or 4b – maximum opening in normal use or at 180° if no locking position)
- 5 ground
- F direction of force

Figure 5 – Apparatus for load applied to a street cabinet door – Top view

6 Procedure

6.1 DUT preparation

Prepare the DUT in accordance with the relevant specification. Unless otherwise specified, the DUT shall be subjected to the crush resistance test in a non-operational mode.

Clean the optical and mechanical parts of the DUT according to the manufacturer's instructions.

6.2 Pre-conditioning

Unless otherwise specified, pre-condition each prepared closure or street cabinet DUT for at least 4 h and each prepared connector, hardened connector or passive component DUT for at least 2 h at the standard atmospheric conditions specified in IEC 61300-1.

6.3 Initial examination and measurement

The DUT shall be visually inspected, optically measured and mechanically checked as required by the relevant specification. The DUT shall be visually inspected according to IEC 61300-3-1. Measure the attenuation and return loss according to IEC 61300-3-4 and IEC 61300-3-6, respectively. For sealed closures, verify the overpressure according to IEC 61300-2-38.

6.4 Device mounting

Position the DUT as shown in Figure 1, Figure 2 and Figure 3, or Figure 4 and Figure 5.

6.5 Conditioning

- a) If another test temperature as in the standard atmospheric conditions is specified, then condition each prepared closure or street cabinet DUT for at least 4 h and each prepared connector, hardened connector or passive component DUT for at least 2 h at the specified test temperature inside a temperature chamber.
- b) Smoothly apply the specified load at the specified rate to the pad.
- c) Maintain the load for the specified duration.
- d) Remove the load.

6.6 Recovery

If the DUT was tested at another test temperature as defined in the standard atmospheric conditions, then allow the closure or street cabinet DUT for at least 4 h and the connector, hardened connector or passive component DUT for at least 2 h to recover at standard atmospheric conditions specified in IEC 61300-1, unless otherwise specified in the relevant specification.

6.7 Final examination and measurement

Upon completion of the test, the DUT shall be examined and all necessary observations recorded as specified in the relevant specification. Inspect visually according to IEC 61300-3-1. Measure the attenuation and return loss according to IEC 61300-3-4 and IEC 61300-3-6, respectively. For sealed closures, carry out the sealing test by IEC 61300-2-38.

7 Severity

The severity of the test is dependent upon the magnitude of the load and load area and to a lesser extent to the rate of load application and the duration of the specified load. The severity shall be specified in the relevant specification or taken from Table 1.

Table 1 – Severities

Product type	Performance category ^a	Load N	Rate of load N/s	Duration s	Test temperature °C	Apparatus
Connectors and passive components	I	2 200 ± 50	100	60	standard ^b	Figure 1
Hardened connectors	G and S	1 000 ± 50	50	600	-15 °C and +45 °C	Figure 1
Closures	G and S	1 000 ± 50	50	600	-15 °C and +45 °C	Figure 1
Load evenly distributed on top surface of a street cabinet	A	1 750 (Pa) × W (m) × D (m)	50	600	-15 °C and +45 °C	Figure 2 and Figure 3
Load applied to a street cabinet door	A	200	10	600	standard ^b	Figure 4 and Figure 5
^a The acronyms for the performance categories are according to IEC 61753-1.						
^b Standard atmospheric conditions according to IEC 61300-1.						

8 Details to be specified

The following details, as applicable, shall be specified in the relevant specification:

- load;
- pad area;
- rate of application of load;
- duration of load;
- test temperature(s);
- DUT orientation;
- DUT optically functioning or non-functioning;
- DUT mated or unmated;
- pre-conditioning procedure;
- number of load applications;
- post-conditioning procedure;
- initial examinations and measurements and performance requirements;
- examinations and measurements during test and performance requirements;
- final examinations and measurements and performance requirements.

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

**DISPOSITIFS D'INTERCONNEXION
ET COMPOSANTS PASSIFS FIBRONIQUES –
PROCÉDURES FONDAMENTALES D'ESSAIS ET DE MESURES –****Partie 2-10: Essais – Résistance à la compression et à la charge****AVANT-PROPOS**

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L'IEC 61300-2-10 a été établie par le sous-comité 86B: Dispositifs d'interconnexion et composants passifs à fibres optiques, du comité d'études 86 de l'IEC: Fibres optiques. Il s'agit d'une Norme internationale.

Cette troisième édition annule et remplace la deuxième édition parue en 2012.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) ajout d'un essai avec une charge statique répartie uniformément à la surface supérieure d'une armoire d'environnement urbain;
- b) ajout d'un essai avec une charge statique appliquée sur la porte d'une armoire d'environnement urbain;
- c) ajout de descriptions pour effectuer l'essai à une température spécifiée autre que celle spécifiée dans les conditions atmosphériques normales et ajout de la (des) température(s) d'essai dans le Tableau 1;
- d) mise à jour des sévérités conformément à l'IEC 61753-1:2018.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
86B/4405/FDIS	86B/4435/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Le présent document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

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DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – PROCÉDURES FONDAMENTALES D'ESSAIS ET DE MESURES –

Partie 2-10: Essais – Résistance à la compression et à la charge

1 Domaine d'application

La présente partie de l'IEC 61300 évalue les effets des charges susceptibles de se produire lorsque les dispositifs fibroniques sont exposés à des situations critiques telles que le piétinement ou l'écrasement par des pneus de véhicules, lorsqu'une charge statique répartie uniformément est appliquée à la surface supérieure d'une armoire d'environnement urbain ou lorsqu'une charge est appliquée sur la porte ouverte d'une armoire d'environnement urbain.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 61300-1, *Dispositifs d'interconnexion et composants passifs fibroniques - Procédures fondamentales d'essais et de mesure – Partie 1: Généralités et lignes directrices*

IEC 61300-2-38, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Procédures fondamentales d'essais et de mesure – Partie 2-38: Essais – Etanchéité pour les boîtiers à fibres optiques à surpression interne*

IEC 61300-3-1, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-1: Examens et mesures – Examen visuel*

IEC 61300-3-4, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-4: Examens et mesures – Affaiblissement*

IEC 61300-3-6, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-6: Examens et mesures – Affaiblissement de réflexion*

IEC 61753-1, *Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance – Partie 1: Généralités et recommandations*

3 Termes et définitions

Aucun terme n'est défini dans le présent document.

L'ISO et l'IEC tiennent à jour des bases de données terminologiques destinées à être utilisées en normalisation, consultables aux adresses suivantes:

- IEC Electropedia: disponible à l'adresse <http://www.electropedia.org/>
- ISO Online browsing platform: disponible à l'adresse <http://www.iso.org/obp>

4 Description générale

Le dispositif en essai (DUT – *device under test*) est exposé à une charge de compression statique appliquée à l'aide d'un poinçon.

5 Appareil

5.1 Généralités

Selon le type de DUT, l'appareil est constitué:

- pour les connecteurs, de composants passifs, de connecteurs durcis et de boîtiers (voir la Figure 1);
- pour une charge statique répartie uniformément à la surface supérieure d'une armoire d'environnement urbain (voir la Figure 2 et la Figure 3);
- pour une charge statique appliquée sur la porte d'une armoire d'environnement urbain (voir la Figure 4 et la Figure 5). La force doit être appliquée sur le dessus d'une porte ouverte au point qui crée le moment le plus élevé sur la charnière de la porte.

5.2 Plateau ou sol

Pour l'appareil de compression représenté à la Figure 1, un plateau d'une épaisseur minimale de 10 mm en acier ou en matériau de dureté comparable, suffisamment grand pour l'ensemble du DUT, ou comme cela est spécifié dans la spécification correspondante, est exigé. Le plateau est placé sur une surface non déformable. Le plateau présente des angles arrondis.

Pour l'appareil relatif à la charge statique répartie uniformément sur la surface supérieure d'une armoire d'environnement urbain (voir la Figure 2 et la Figure 3) et relatif à la charge statique appliquée sur la porte d'une armoire d'environnement urbain (voir la Figure 4 et la Figure 5) l'armoire d'environnement urbain doit être solidement fixée au sol.

5.3 Poinçon

Un poinçon d'une épaisseur minimale de 10 mm, en acier ou en un matériau de dureté comparable, avec des bords arrondis et fixé sur une plaque non déformable est exigé. Le poinçon doit avoir un diamètre de 5,6 cm (soit une surface de 25 cm²) et être en contact avec le DUT par sa surface circulaire plane, sauf pour l'essai de charge avec une charge statique répartie uniformément sur la surface supérieure d'une armoire d'environnement urbain.

5.4 Générateur de force

Un générateur de force peut être n'importe quel dispositif ou appareil capable d'appliquer progressivement la force spécifiée à la vitesse exigée.

5.5 Calibre

Le calibre doit être un instrument approprié pour mesurer la force appliquée au DUT.

5.6 Enceinte thermique

Si l'essai doit être effectué à une autre température que la température ambiante, une enceinte thermique de taille appropriée et un dispositif de détection de la température doivent être utilisés. L'enceinte thermique doit pouvoir recevoir le DUT, le poinçon et le générateur de force, et maintenir la température spécifiée à ± 2 °C.