

DIN ISO 5742

**DIN**

ICS 01.040.25; 25.140.30

Ersatz für  
DIN ISO 5742:1995-06**Greif- und Schneidzangen –  
Benennungen (ISO 5742:2004)**Pliers and nippers –  
Nomenclature (ISO 5742:2004)Pinces et tenailles –  
Nomenclature (ISO 5742:2004)

Gesamtumfang 22 Seiten

Normenausschuss Werkzeuge und Spannzeuge (FWS) im DIN



## Inhalt

	Seite
Nationales Vorwort .....	4
0 Anwendungsbereich .....	5
1 Schneidzangen Cutting nippers Pincés coupantes Tronchesi Alicates de corte .....	6
2 Greifzangen Gripping pliers Pincés de serrage Pinze per presa Alicates de sujeción .....	7
3 Kombinierte Greif- und Schneidzangen Combined gripping and cutting pliers Pincés coupantes et de serrage Pinze universale con taglianti e per presa Alicates universales de corte y de cierre .....	9
4 Begriffe an der Zange Component parts Parties composantes Parti componenti Componentes .....	10
5 Griffe Handles Branches Manichi Mangos .....	11
6 Gelenke für schließende Zangen Joints for closing pliers Charnières (articulations) pour pincés à fermer Cerniere per pinze a chiudere Uniones para alecates a cerrar .....	12
7 Gelenke für öffnende Zangen Joints for opening pliers Charnières pour pincés à ouvrir Cerniere per pinze a aprire Uniones para alecates a abrir .....	13
8 Bezeichnungen am Kopf Features of head Formes de la tête Forme del capo Formas de cabeza .....	14
9 Schneiden Cutters Coupes Taglienti Cortes .....	15

<b>10</b>	<b>Schneidenformen</b> <b>Cutting edges</b> <b>Types de taillants</b> <b>Tipi di taglienti</b> <b>Tipos de corte .....</b>	<b>16</b>
<b>11</b>	<b>Kopfformen</b> <b>Shape of nose</b> <b>Formes de becs</b> <b>Forme dei becchi</b> <b>Formas de boca .....</b>	<b>18</b>
<b>12</b>	<b>Greifflächen</b> <b>Gripping surfaces</b> <b>Surfaces de prise</b> <b>Superficie de presa</b> <b>Superficies de sujeción .....</b>	<b>20</b>
	<b>Literaturhinweise .....</b>	<b>22</b>

## **Nationales Vorwort**

Die Internationale Norm ISO 5742:2004 wurde vom Technischen Komitee ISO/TC 29 „Werkzeuge“, Subkomitee 10 „Schraubwerkzeuge; Greif- und Schneidzangen“, unter Beteiligung deutscher Fachleute des Normenausschusses NA 121 „Werkzeuge und Spannzeuge“ (FWS) des Arbeitsausschusses NA 121-09-01 AA „Zangen“ erarbeitet.

Um die Anwendung der Norm zu erleichtern, wurden die deutschen, italienischen und spanischen Benennungen direkt den Bildbeispielen zugeordnet. Dadurch entfällt der im ISO-Original enthaltene Anhang A (informativ) „Äquivalente Benennung in anderen Sprachen“.

Reihenfolge der Benennungen:

Deutsch  
Englisch  
Französisch  
Italienisch  
Spanisch

## **Änderungen**

Gegenüber DIN ISO 5742:1995-06 wurden folgende Änderungen vorgenommen:

- a) Inhalt aktualisiert;
- b) Norm redaktionell überarbeitet.

## **Frühere Ausgaben**

DIN ISO 5742: 1995-06  
DIN 5233: 1965-07

## Greif- und Schneidzangen Benennungen

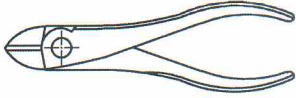

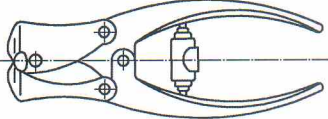
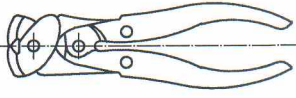
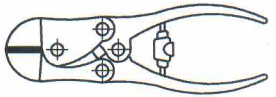
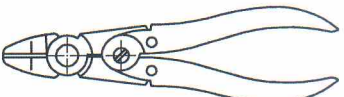
### 0 Anwendungsbereich

Diese Internationale Norm enthält die Benennungen der Greif- und Schneidzangen in Englisch und Französisch.


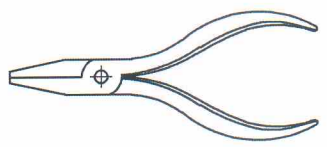

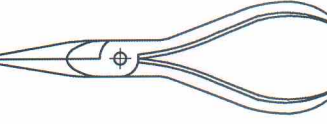

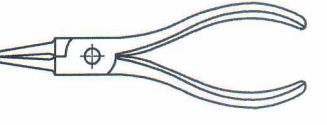
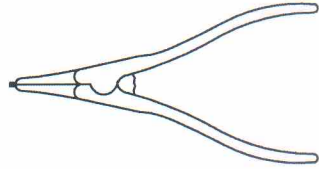
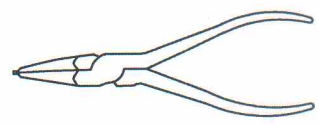
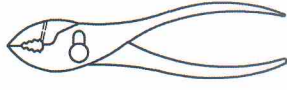
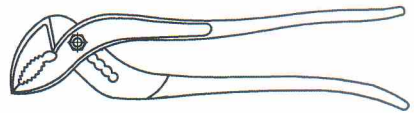
ANMERKUNG 1 Die Bilder in dieser Internationalen Norm sind nur Beispiele und sollen nicht die Gestaltungsmöglichkeiten der Hersteller einschränken.

ANMERKUNG 2 Zusätzlich zu den Begriffen in den offiziellen ISO-Sprachen (Englisch und Französisch) enthält diese Internationale Norm die entsprechenden Begriffe in Deutsch, Italienisch und Spanisch; diese wurden auf Verantwortung der Mitgliedsländer Deutschland (DIN), Italien (UNI) und Spanien (AENOR) aufgenommen und veröffentlicht. Als ISO-Begriffe gelten jedoch nur die in den offiziellen Sprachen enthaltenen Begriffe.

**1 Schneidzangen**  
**Cutting nippers**  
**Pinces coupantes**  
**Tronchesi**  
**Alicates de corte**

Nr	Benennung	Norm	Bildbeispiel
101	Seitenschneider	ISO 5749	
	Diagonal cutting nippers		
	Pince coupante diagonale		
	Tronchese a taglienti diagonali		
	Alicate corte diagonal		
102	Vornschneider	ISO 5748	
	End cutting nippers		
	Pince coupante en bout		
	Tronchese a taglienti frontali		
	Alicate corte frontal		
103	Hebel-Vornschneider mit Kniehebel	ISO 5748	
	Toggle lever assisted end cutting nippers		
	Pince coupante en bout à articulation démultipliée		
	Tronchese a doppia leva e taglienti frontali (tipo pesante)		
	Alicate articulado de corte frontal de acción multiplicadora		
104	Hebel-Vornschneider	ISO 5747	
	Lever assisted end cutting nippers		
	Pince articulée coupante en bout		
	Tronchese a doppia leva e taglienti frontali (tipo leggero)		
	Alicate articulado de corte frontal		
105	Hebel-Seitenschneider mit Kniehebel	ISO 5749	
	Toggle lever assisted side cutting nippers		
	Pince coupante de côté à articulation démultipliée		
	Tronchese a doppia leva con taglienti diagonali (tipo pesante)		
	Alicate articulado de corte lateral de acción multiplicadora		
106	Hebel-Seitenschneider	ISO 5747	
	Lever assisted diagonal cutting nippers		
	Pince articulée coupante diagonale		
	Tronchese a doppia leva con taglienti diagonali (tipo leggero)		
	Alicate articulado de corte diagonal		

**2 Greifzangen**  
**Gripping pliers**  
**Pinces de serrage**  
**Pinze per presa**  
**Alicates de sujeciòn**

Nr	Benennung	Norm	Bildbeispiel
201	Flachzange	ISO 5745	 
	Flat nose pliers		
	Pince plate		
	Pinza a becchi piatti		
	Alicates de boca plana		
202	Flachrundzange	ISO 5745	 
	Snipe nose pliers		
	Pince demi-ronde		
	Pinza a becchi mezzotondi		
	Alicates de boca semiredonda		
203	Rundzange	ISO 5745	 
	Round nose pliers		
	Pince ronde		
	Pinza a becchi tondi		
	Alicates de boca redonda		
204	Zangen für Sicherungsringe für Wellen		
	External circlip pliers		
	Pince pour circlips (extérieurs)		
	Pinza per anelli elastici di sicurezza per alberi		
	Alicates de puntas para anillos exteriores		
205	Zangen für Sicherungsringe für Bohrungen		
	Internal circlip pliers		
	Pince pour circlips (intérieurs)		
	Pinza per anelli elastici di sicurezza per fori		
	Alicates de puntas para anillos interiores		
206	Kombinationszange mit Gleitgelenk	ISO 9343	
	Slip joint pliers		
	Pince réglable à deux positions		
	Pinza regolabile a due posizioni		
	Alicates de abertura doble		
207A	Wasserpumpenzange mit aufgelegtem Gelenk	ISO 8976	
	Multiple slip joint pliers with a lay on joint		
	Pince multiprise à simple crémaillère		
	Pinza regolabile a più posizioni (con cerniera sovrapposta e fori di posizione)		
	Tenaza de abertura múltiple de ojal		

DIN ISO 5743

**DIN**

ICS 25.140.30

Supersedes  
DIN ISO 5743:1994-09

**Pliers and nippers –  
General technical requirements (ISO 5743:2004)  
English version of DIN ISO 5743:2006-09**

Greif- und Schneidzangen –  
Allgemeine technische Anforderungen (ISO 5743:2004)  
Englische Fassung DIN ISO 5743:2006-09

Document comprises 6 pages



## Contents

	Page
National foreword .....	2
National Annex NA (informative) Bibliography .....	3
1 Scope .....	4
2 Normative references .....	4
3 Handles .....	4
4 Heads .....	4
4.1 Joint .....	4
4.2 Jaws .....	4
5 Designation .....	5
5.1 Nippers .....	5
5.2 Gripping and dual-purpose pliers .....	5
6 Marking .....	5
Bibliography .....	6

## National foreword

This standard has been prepared by Technical Committee ISO/TC 29 “Small tools”, Subcommittee SC 10 “Assembly tools for screws and nuts, pliers and nippers”.

The responsible German body involved in its preparation was the *Normenausschuss Werkzeuge und Spannzeuge* (Tools and Clamping Devices Standards Committee), Technical Committee NA 121-09-01 AA *Zangen*.

The DIN Standards corresponding to the International Standards referred to in clause 2 of the ISO Standard are as follows:

ISO 5742    DIN ISO 5742  
ISO 5744    DIN ISO 5744

### Amendments

This standard differs from DIN ISO 5743:1994-09 as follows:

- a) A new clause 6 “Marking” has been included.
- b) The standard has been editorially revised.

### Previous editions

DIN 5232: 1965-07, 1971-06, 1978-08  
DIN 5240: 1960-06, 1962-05, 1971-06, 1978-08  
DIN ISO 5743: 1994-09

**National Annex NA**  
(informative)

**Bibliography**

DIN ISO 5742, *Pliers and nippers — Nomenclature*

DIN ISO 5744, *Pliers and nippers — Methods of test*

# Pliers and nippers — General technical requirements

## 1 Scope

This International Standard specifies the general technical requirements to be met by pliers and nippers.

It does not specify insulating or antistatic characteristics of handle coatings. Plastic coatings or plastic sleeves are intended for gripping comfort only.

This International Standard is only applicable to pliers for which ISO standards exist.

## 2 Normative references

The following referenced documents are indispensable for the application 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 5742, *Pliers and nippers — Nomenclature*

ISO 5744, *Pliers and nippers — Methods of test*

## 3 Handles

Handles shall be shaped to afford a comfortable grip and shall prevent accidental pinching of the hands.

For pliers provided with a comfort grip, the width of the handles shall include the thickness of the comfort grip.

## 4 Heads

### 4.1 Joint

The joint shall be constructed to allow free movement from the closed to the open position and shall be free from excessive side movement in any position that could impair the function of the tool.

### 4.2 Jaws

For all pliers the jaws shall meet at the point. Pliers and nippers for which other specifications are laid down in the dimensional standards are excepted.

Cutting edge of cutting pliers shall have a minimum hardness of 55 HRC.

The hardness of the gripping surfaces for all pliers shall be a minimum of 42 HRC. The hardness shall be measured in accordance with ISO 5744.

DIN ISO 5744

**DIN**

ICS 25.140.30

Supersedes  
DIN ISO 5744:1994-09

**Pliers and nippers –  
Methods of test (ISO 5744:2004)  
English version of DIN ISO 5744:2006-09**

Greif- und Schneidzangen –  
Prüfverfahren (ISO 5744:2004)  
Englische Fassung DIN ISO 5744:2006-09

Document comprises 16 pages

## Contents

	Page
National foreword .....	5
National Annex NA (informative) Bibliography .....	4
1 Scope .....	5
2 Normative references .....	5
3 General .....	5
4 Load test .....	5
4.1 General .....	5
4.2 Pliers and nippers .....	5
4.3 Lever-assisted pliers .....	6
4.4 Test piece .....	6
5 Wire cutting test .....	9
5.1 Verification of test wire .....	9
5.2 Cutting force .....	9
5.3 Cutting test .....	10
6 Torsion test .....	12
6.1 General .....	12
6.2 Test piece .....	12
7 Soft wire cutting test .....	14
8 Hardness of gripping surfaces .....	15
Bibliography .....	16

## National foreword

This standard has been prepared by Technical Committee ISO/TC 29 "Small tools", Subcommittee SC 10 "Assembly tools for screws and nuts, pliers and nippers".

The responsible German body involved in its preparation was the *Normenausschuss Werkzeuge und Spannzeuge* (Tools and Clamping Devices Standards Committee), Technical Committee NA 121-09-01 AA *Zangen*.

The DIN Standard corresponding to the International Standard referred to in clause 2 of the ISO Standard is as follows:

IEC 60317-0-1    DIN EN 60317-0-1

### Amendments

This standard differs from DIN ISO 5744:1994-09 as follows:

- a) Subclause 5.3 "Cutting test" has been revised.
- b) The standard has been editorially revised.

### Previous editions

DIN 5232: 1965-07, 1971-06, 1978-08

DIN 5240: 1960-06, 1962-05, 1971-06, 1978-08

DIN ISO 5744: 1994-09

**National Annex NA**  
(informative)

**Bibliography**

DIN EN 60317-0-1, *Specifications for particular types of winding wires — Part 0-1: General requirements — Enamelled round copper wire*

# Pliers and nippers — Methods of test

## 1 Scope

This International Standard specifies methods of test for checking the correct functioning of pliers and nippers.

The test parameters have been specified on the basis of the functional uses of the tools.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

EN 12166:1988, *Copper and copper alloys — Wire for general purposes*

IEC 60317-0-1, *Specifications for particular types of winding wires — Part 0-1: General requirements — Enamelled round copper wire*

## 3 General

Unless otherwise specified, values like dimensions used for positioning a test piece, test forces and locations for applying test forces have a tolerance of  $\pm 2,5\%$ .

## 4 Load test

### 4.1 General

The test shall be carried out using suitable equipment which can be checked by comparison with a standard.

All tests shall be executed on the same tested tool and in the sequence of tests specified in this International Standard.

### 4.2 Pliers and nippers

For the type and size of tool, given in the dimensional standards, define a point for the application of the load on the handles at distance  $l_1$  from the centre of the joint rivet, and insert a suitable test piece into the jaws (see 4.4).

If a pair of pliers is fitted with a comfort grip, the test shall preferably be carried out with the comfort grip removed.

Apply a load of 50 N and measure the width,  $w_1$ , of the handles. Increase the load to the specified value,  $F$ , as given in the tables of the applicable product standard, and then reduce it to 50 N. The load  $F$  shall be applied four times and then the width,  $w_2$  of the handles shall again be measured at the same distance  $l_1$ .



## DIN ISO 5744:2006-09

The difference between the first and second readings shall not exceed the maximum value of permanent set ( $s = w_1 - w_2$ ), see Figures 1, 2, 3 and 4, appropriate to the type and size of tool.

After the test, the tool shall show no deformation that can affect its use.

If the load test cannot conveniently be carried out at distance  $l_1$  from the centre of the joint rivet, then a more suitable position for the load may be chosen at distance  $l'_1$  from the centre of the joint rivet. The load  $F'$  at distance  $l'_1$  from the centre of the joint rivet shall then be calculated from the formula

$$F' = \frac{F \times l_1}{l'_1}$$

where

$F$  is the load at distance  $l_1$  (see Figures 1, 2 and 3);

$F'$  is the calculated load at distance  $l'_1$ ;

$l_1$  is the distance from the centre of the joint rivet to the point of application of the load given in the applicable product standard;

$l'_1$  is the measured distance from the centre of the joint rivet to the point of application of the load.

After the load test, the permanent set,  $s$ , shall not exceed the value given in the applicable product standard.

### 4.3 Lever-assisted pliers

For the type and size of tool, given in the dimensional standards, define a point for the application of the load on the handles at distance  $l_1$  from the centre of the joint rivet, and insert a suitable test piece into the jaws (see 4.4).

Apply a load of  $0,5 \times F$ ; reduce it to 50 N and measure the width,  $w_1$ , of the handles. Increase the load to the specified value  $F$ , and then reduce it to 50 N. The load  $F$  shall be applied four times and then the width,  $w_2$ , of the handles shall again be measured at the same distance  $l_1$ .

The difference between the first and second readings shall not exceed the maximum value of permanent set ( $s = w_1 - w_2$ ), see Figures 1, 2 and 3, appropriate to the type and size of tool.

After the test, the tool shall show no deformation that can affect its use.

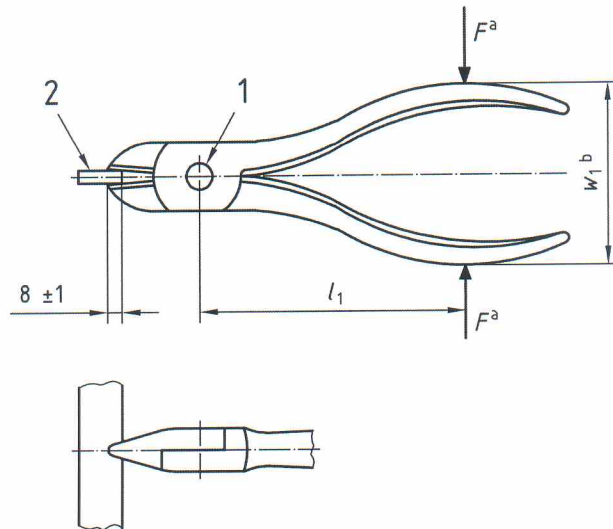
### 4.4 Test piece

The test piece shall have a hardness value of 30 HRC to 40 HRC and be of such a size and profile as to make contact with the jaws over a length of  $8 \text{ mm} \pm 1 \text{ mm}$  from the point of the jaws.

For end cutting nippers the test piece shall make contact over the full length of the jaws. With the test piece inserted, the gap between the points of the jaws shall be  $3 \text{ mm} \pm 1 \text{ mm}$ .

For multiple slip joint pliers and slip joint pliers the contact between the jaws and the test piece shall extend over lengths of  $6 \text{ mm} \pm 1 \text{ mm}$ .

Dimensions in millimetres

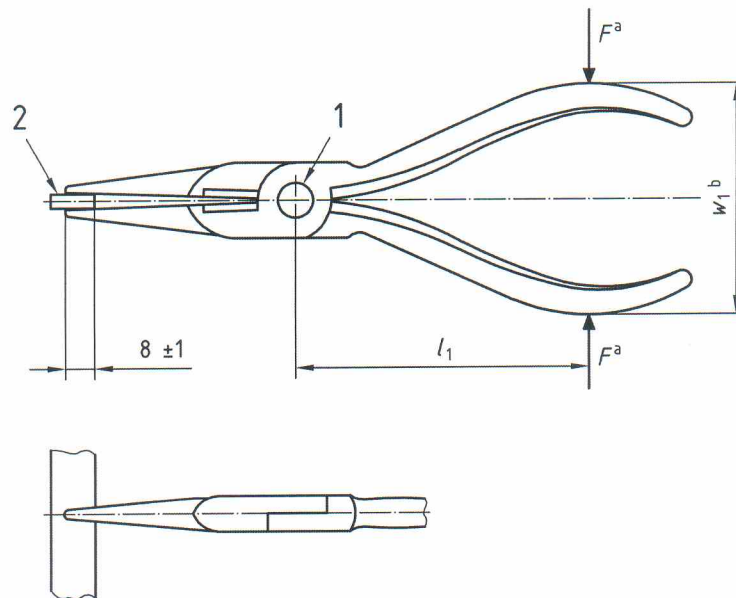


**Key**

- 1 joint rivet
- 2 test piece
- a  $F$  = load applied in load test or  $F_1$  = force applied in cutting test.
- b or  $w_2$  measured in accordance with 4.2.

**Figure 1 — Diagonal cutting nippers**

Dimensions in millimetres



**Key**

- 1 joint bolt
- 2 test piece
- a  $F$  = load applied in load test or  $F_1$  = force applied in cutting test.
- b or  $w_2$  measured in accordance with 4.2.

**Figure 2 — Snipe nose, flat nose and round nose pliers**