

Product Information

79 22 120 ESD

Precision Electronics Side Cutter ESD



- Precision pliers for ultra fine cutting work, e. g. in electronics and fine mechanics
- Electrically discharging handles - dissipative
- Very precisely ground and sharp cutting edges with very small bevels for exact cutting on delicate electronic components; also available without bevel for flush cutting
- Precision cutting edges additionally induction-hardened, cutting edge hardness approx. 64 HRC
- Approx. 20% lighter than conventional electronics pliers
- Bolted joint with carefully manufactured joint surfaces for even, low-friction movement throughout the entire opening range
- Smooth-running double spring for a gentle and even opening
- Ergonomically optimised multi-component handles
- Mini-head

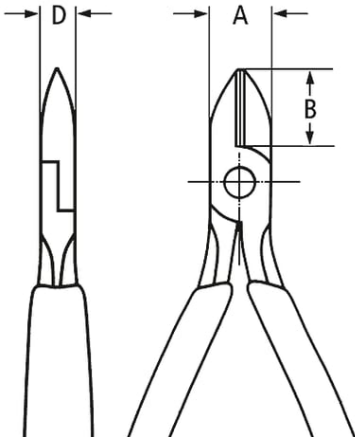
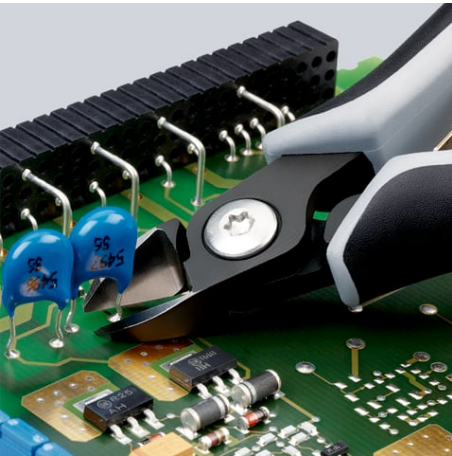
| General                                        |                              |
|------------------------------------------------|------------------------------|
| Part No.                                       | 79 22 120 ESD                |
| EAN                                            | 4003773061618                |
| pliers                                         | burnished                    |
| Head                                           | polished                     |
| Handles                                        | with multi-component handles |
| Weight                                         | 57 g                         |
| Dimensions                                     | 120 x 61 x 19 mm             |
| Standard                                       | DIN ISO 9654 DIN EN 61 340-5 |
| REACH compliant                                | does not contain SVHC        |
| RoHS compliant                                 | not applicable               |
| Technical details                              |                              |
| Cutting capacities medium hard wire (diameter) | Ø 0.8 mm                     |
| Cutting capacities soft wire (diameter)        | Ø 01 mm                      |
| Jaw length (B)                                 | 6.5 mm                       |
| Jaw thickness (joint) (D)                      | 6.5 mm                       |
| Head width (A)                                 | 9 mm                         |
| ESD                                            | yes                          |

Technical changes and errors excepted

[www.npower.com.vn](http://www.npower.com.vn)

Tài liệu được tổng hợp bởi đội ngũ kỹ thuật của **NPOWER**  
 Bản quyền nội dung thuộc về **KNIPEX**







|   |                         |
|---|-------------------------|
| 1 | Point                   |
| 2 | Gripping surface        |
| 3 | Recess (pipe grip)      |
| 4 | Additional cutting edge |
| 5 | Jaw                     |
| 6 | Flank                   |

## Direction and position of the cutting edges

|                                                          |  |  |
|----------------------------------------------------------|--|--|
| Cutting edge transverse to the longitudinal direction    |  |  |
| Oblique cutting edge position                            |  |  |
| Cutting edge in longitudinal direction – diagonal cutter |  |  |
| Cutting edge in longitudinal direction – centre cutter   |  |  |

## Cutting edge shapes DIN ISO 5742

|                                       |  |  |
|---------------------------------------|--|--|
| With bevel (outside bevel)            |  |  |
| With small bevel (outside bevel)      |  |  |
| With very small bevel (outside bevel) |  |  |
| Flush cut                             |  |  |
| Flush cut                             |  |  |

## Joint types

|                                                                                                                                                                                                                                                                                  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Lap joint</b><br>With the lap joint, which is used on carpenters' pincers, concretors' nippers and high leverage diagonal cutters, the two halves of the pliers lie on top of each other without being milled out. The pliers handle can thus be designed to be very robust.  |  |
| <b>Single joint</b><br>With the single joint, half the thickness of each pliers handle is milled. Both pliers handles can thus be fitted into one another. The outer sides in the rivet area are smooth and not indented.                                                        |  |
| <b>Box joint</b><br>One handle on the pliers is slit. The other handle is pushed through this slot. This joint connection can withstand a high level of load and strain because the joint bolt is supported on both sides and the inside handle is guided on both sides.         |  |
| <b>Slip joint</b><br>Slip joints enable optimal adaptation of the gripping jaws of pliers to various workpiece sizes. The opening width of the jaws is increased or decreased for this purpose. This occurs through shifting the two pliers handles with respect to one another. |  |

## Safety instruction

- > Each tool should only be used for its specified purpose.
- > When using cutting pliers: beware of wire ends flying off. Wear protective goggles and – if needed – gloves. Be aware of bystanders!
- > Only handles marked with the symbol 1000 V are insulating.



## Care instructions

A drop of oil (e.g. Ballistol®) on the polished surfaces and in the joint keeps your pliers in good working order and extends their service life!



## Basic jaw shapes

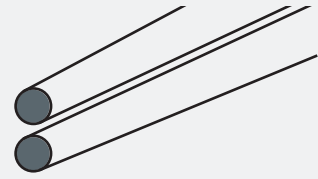
Flat nose pliers



Snipe nose pliers



Round nose pliers



## Examples of different handle types on a pair of pliers



**Straight handles, fully-metal design without plastic grips**  
are used when the hand must be placed at various positions when gripping. This is often the case with carpenters' pliers and concretors' nippers.



**S-shaped handles, thin plastic coatings**  
render pliers slip resistant and pleasant to grip. They support a precise hand position, which can be useful in screwing motions, for example. The typical handle for water pump pliers.



**Curved handles, thin plastic coatings**  
support the hand at the front and rear. This is always beneficial where high forces are required, for example with diagonal cutters.



**Multi-component grips**  
Compared to handles with a thin plastic coating, comfort handles offer the hand a larger contact surface, enabling better distribution of force and thus making work more comfortable. The red, hard component ensures a firm grip on the thumb, the softer blue component ensures ergonomic contact with fingers and the heel of the hand.



**Comfort Handles**  
The third, grey component in the thumb rest allows more control due to its special surface texture. The ends of the handles each have a KNIPEXtend interface for extending the functionality, for example with TetheredTool Clips for attaching fall protection devices.



**VDE\*-insulated handles, multi-component grips**  
Insulated grips for working on electrical systems. Approved to DIN EN/IEC 60900, these pliers comply with significantly more stringent technical and safety standards.



**VDE\*-insulated handles with dip-insulation**  
The dipped VDE-handles guarantee the same electrical protection as other VDE insulated handles. In particular, energy companies use these different looking VDE-pliers to help prevent the wrong tool from being used.



**ESD\*\*-grips, multi-component grips**  
Dissipative sleeves enable a gradual, controlled equalisation of any prevailing differences in electric potential between the operator and sensitive electronic components.

\* Association for Electrical, Electronic and Information Technologies

\*\* electrostatic discharge

## Cutting value table

| Article No.   | Length<br>mm |  Ø mm |  Ø mm |  Ø mm |  Ø mm | Page     |
|---------------|--------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------|
| 01 0          | 160          |                                                                                        |                                                                                        | 2.0                                                                                    | 1.5                                                                                    | 14       |
|               | 190          |                                                                                        |                                                                                        | 2.5                                                                                    | 2.0                                                                                    | 14       |
| 02 0          | 180          |                                                                                        |                                                                                        | 2.5                                                                                    | 2.0                                                                                    | 11       |
|               | 200          |                                                                                        |                                                                                        | 2.8                                                                                    | 2.2                                                                                    | 11       |
| 03 0          | 225          |                                                                                        |                                                                                        | 3.0                                                                                    | 2.5                                                                                    | 11       |
|               | 140          |                                                                                        | 2.8                                                                                    | 1.8                                                                                    |                                                                                        | 10       |
|               | 160          |                                                                                        | 3.1                                                                                    | 2.0                                                                                    |                                                                                        | 10       |
|               | 180          |                                                                                        | 3.4                                                                                    | 2.2                                                                                    |                                                                                        | 10       |
|               | 200          |                                                                                        | 3.8                                                                                    | 2.5                                                                                    |                                                                                        | 10       |
|               | 250          |                                                                                        | 3.8                                                                                    | 2.5                                                                                    |                                                                                        | 10       |
| 08 0          | 110          |                                                                                        | 2.5                                                                                    | 1.6                                                                                    |                                                                                        | 14       |
| 08 2          | 145          |                                                                                        | 3.0                                                                                    | 2.0                                                                                    |                                                                                        | 12       |
|               | 185          |                                                                                        | 3.8                                                                                    | 3.0                                                                                    |                                                                                        | 12       |
| 09            | 240          |                                                                                        | 4.6                                                                                    | 3.0                                                                                    |                                                                                        | 15       |
| 13 0          | 160          |                                                                                        | 2.5                                                                                    | 1.6                                                                                    |                                                                                        | 40       |
| 13 4          | 165          |                                                                                        | 3.2                                                                                    | 2.2                                                                                    |                                                                                        | 41       |
| 14 2          | 160          | 2.5                                                                                    | 1.5                                                                                    |                                                                                        |                                                                                        | 48       |
| 19 0          | 130          |                                                                                        | 2.2                                                                                    | 1.6                                                                                    |                                                                                        | 52       |
| 25 01/03      | 125          |                                                                                        | 2.2                                                                                    | 1.6                                                                                    |                                                                                        | 55       |
| 25 0/21/25/26 | 140          |                                                                                        | 2.5                                                                                    | 1.6                                                                                    |                                                                                        | 55       |
|               | 160          |                                                                                        | 2.5                                                                                    | 1.6                                                                                    |                                                                                        | 55       |
|               | 200          |                                                                                        | 3.2                                                                                    | 2.2                                                                                    |                                                                                        | 56       |
| 26 1/26 2     | 160          |                                                                                        | 1.8                                                                                    |                                                                                        |                                                                                        | 86       |
|               | 180          |                                                                                        | 2.0                                                                                    |                                                                                        |                                                                                        | 86       |
|               | 210          |                                                                                        | 2.2                                                                                    |                                                                                        |                                                                                        | 86       |
|               | 225          |                                                                                        | 2.2                                                                                    |                                                                                        |                                                                                        | 86       |
|               | 250          |                                                                                        | 2.2                                                                                    |                                                                                        |                                                                                        | 86       |
| 51 01         | 210          |                                                                                        | 2.2                                                                                    |                                                                                        |                                                                                        | 86       |
| 55 00 300     | 300          | 2.0–3.0                                                                                |                                                                                        |                                                                                        |                                                                                        | 87       |
| 61 0          | 200          | 1.0–6.0                                                                                | 4.0                                                                                    | 3.5                                                                                    | 3.0                                                                                    | 110      |
| 62 12         | 120          | 0.3–1.0                                                                                | 0.7                                                                                    |                                                                                        |                                                                                        | 273      |
| 64 0          | 115          | 2.0                                                                                    | 1.0                                                                                    | 0.6                                                                                    |                                                                                        | 272      |
| 64 11/12      | 115          | 1.4                                                                                    | 0.8                                                                                    |                                                                                        |                                                                                        | 272      |
| 64 22         | 115          | 0.8                                                                                    |                                                                                        |                                                                                        |                                                                                        | 272      |
| 64 32         | 120          | 1.5                                                                                    | 1.0                                                                                    | 0.5                                                                                    |                                                                                        | 272      |
| 64 42         | 115          | 1.5                                                                                    | 1.0                                                                                    | 0.5                                                                                    |                                                                                        | 272      |
| 64 52         | 115          | 1.3                                                                                    |                                                                                        |                                                                                        |                                                                                        | 272      |
| 64 62         | 120          | 0.6                                                                                    |                                                                                        |                                                                                        |                                                                                        | 272      |
| 64 72         | 120          | 1.5                                                                                    |                                                                                        |                                                                                        |                                                                                        | 272      |
| 67 0          | 140          | 4.0                                                                                    | 3.1                                                                                    | 2.0                                                                                    | 1.5                                                                                    | 111      |
|               | 160          | 4.5                                                                                    | 3.4                                                                                    | 2.5                                                                                    | 2.0                                                                                    | 111      |
|               | 200          | 5.0                                                                                    | 3.8                                                                                    | 3.0                                                                                    | 2.5                                                                                    | 111      |
|               | 160          | 4.0                                                                                    | 2.8                                                                                    | 2.3                                                                                    |                                                                                        | 111      |
| 68 01         | 180          | 4.0                                                                                    | 3.2                                                                                    | 2.5                                                                                    |                                                                                        | 111      |
|               | 200          | 4.0                                                                                    | 3.5                                                                                    | 2.8                                                                                    |                                                                                        | 111      |
|               | 280          | 4.5                                                                                    | 4.0                                                                                    | 3.2                                                                                    |                                                                                        | 111      |
|               | 110          | 3.0                                                                                    | 2.0                                                                                    | 1.2                                                                                    |                                                                                        | 96       |
| 70            | 125          | 3.0                                                                                    | 2.3                                                                                    | 1.5                                                                                    |                                                                                        | 96       |
|               | 140          | 4.0                                                                                    | 2.5                                                                                    | 1.8                                                                                    |                                                                                        | 96       |
|               | 160          | 4.0                                                                                    | 3.0                                                                                    | 2.0                                                                                    |                                                                                        | 96       |
|               | 180          | 4.0                                                                                    | 3.0                                                                                    | 2.5                                                                                    |                                                                                        | 96       |
| 71            | 160          | 5.3                                                                                    | 4.4                                                                                    | 3.2                                                                                    | 3.0                                                                                    | 104      |
|               | 200          | 6.0                                                                                    | 5.2                                                                                    | 4.0                                                                                    | 3.6                                                                                    | 105, 106 |
| 71 31         | 250          |                                                                                        | 5.6                                                                                    | 4.0                                                                                    | 3.8                                                                                    | 107      |
|               | 160          | 5.3                                                                                    | 4.8                                                                                    | 3.6                                                                                    | 3.3                                                                                    | 104      |
|               | 250          |                                                                                        | 6.0                                                                                    | 4.3                                                                                    | 4.2                                                                                    | 107      |

| Article No.    | Length<br>mm |  Ø mm |  Ø mm |  Ø mm |  Ø mm | Page     |
|----------------|--------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------|
| 72 62          | 200          | 6.0                                                                                      |                                                                                          |                                                                                          |                                                                                          | 93       |
| 73 0           | 160          | 4.8                                                                                      | 3.8                                                                                      | 2.7                                                                                      | 2.2                                                                                      | 99       |
| 73 7           | 180          | 5.5                                                                                      | 4.6                                                                                      | 3.2                                                                                      | 3.0                                                                                      | 102      |
| 74 0           | 140          |                                                                                          | 3.1                                                                                      | 2.0                                                                                      | 1.5                                                                                      | 100      |
|                | 160          |                                                                                          | 3.4                                                                                      | 2.5                                                                                      | 2.0                                                                                      | 100      |
|                | 180          |                                                                                          | 3.8                                                                                      | 2.7                                                                                      | 2.2                                                                                      | 100      |
|                | 200          |                                                                                          | 4.2                                                                                      | 3.0                                                                                      | 2.5                                                                                      | 100      |
|                | 250          |                                                                                          | 4.6                                                                                      | 3.5                                                                                      | 3.0                                                                                      | 100      |
| 74 91          | 250          | 5.0                                                                                      | 5.0                                                                                      | 3.8                                                                                      | 3.5                                                                                      | 103      |
| 75 02/12       | 125          | 0.2–1.3                                                                                  | 1.0                                                                                      | 0.6                                                                                      | 0.4                                                                                      | 265      |
| 75 22          | 125          | 0.2–1.3                                                                                  | 0.9                                                                                      | 0.4                                                                                      | 0.3                                                                                      | 265      |
| 75 52          | 125          | 0.2–0.8                                                                                  | 0.5                                                                                      | 0.3                                                                                      |                                                                                          | 265      |
| 76 01/03/05/12 | 125          | 0.4–3.0                                                                                  | 2.3                                                                                      | 1.5                                                                                      | 0.6                                                                                      | 98       |
| 76 22          | 125          | 0.4–2.5                                                                                  |                                                                                          |                                                                                          |                                                                                          | 98       |
| 76 81          | 125          | 0.4–1.7                                                                                  | 1.3                                                                                      | 0.8                                                                                      |                                                                                          | 98       |
| 77 01          | 115          | 0.3–1.6                                                                                  | 1.2                                                                                      | 0.6                                                                                      |                                                                                          | 269      |
| 77 02          | 115          | 0.3–1.6                                                                                  | 1.2                                                                                      | 0.6                                                                                      |                                                                                          | 269, 270 |
|                | 120          | 2.0                                                                                      | 1.4                                                                                      | 1.0                                                                                      | 0.6                                                                                      | 271      |
|                | 130          | 0.3–2.0                                                                                  | 1.5                                                                                      | 0.8                                                                                      |                                                                                          | 269, 270 |
|                | 135          | 2.2                                                                                      | 1.6                                                                                      | 1.2                                                                                      | 0.8                                                                                      | 271      |
| 77 11/12       | 115          | 0.3–1.6                                                                                  | 1.2                                                                                      | 0.6                                                                                      |                                                                                          | 269, 270 |
| 77 21          | 115          | 0.3–1.3                                                                                  | 1.0                                                                                      |                                                                                          |                                                                                          | 269      |
| 77 22          | 115          | 0.3–1.3                                                                                  | 1.0                                                                                      |                                                                                          |                                                                                          | 269      |
| 77 32          | 115          | 0.3–1.3                                                                                  | 1.0                                                                                      | 0.5                                                                                      |                                                                                          | 269, 270 |
|                | 120          | 1.6                                                                                      | 1.0                                                                                      | 0.6                                                                                      | 0.2                                                                                      | 271      |
|                | 130          | 0.3–2.0                                                                                  | 1.3                                                                                      | 0.6                                                                                      |                                                                                          | 269, 270 |
|                | 115          | 1.3                                                                                      | 0.8                                                                                      |                                                                                          |                                                                                          | 269      |
| 77 41          | 115          | 0.3–1.3                                                                                  | 0.8                                                                                      |                                                                                          |                                                                                          | 269, 270 |
| 77 42          | 130          | 0.3–1.6                                                                                  | 1.3                                                                                      |                                                                                          |                                                                                          | 269, 270 |
|                | 115          | 0.3–1.0                                                                                  | 0.8                                                                                      | 0.5                                                                                      |                                                                                          | 269, 270 |
| 77 52          | 115          | 0.3–0.8                                                                                  |                                                                                          |                                                                                          |                                                                                          | 269, 270 |
| 77 72          | 115          | 0.3–0.8                                                                                  |                                                                                          |                                                                                          |                                                                                          | 269, 270 |
| 77 82          | 130          | 0.3–1.6                                                                                  | 1.3                                                                                      |                                                                                          |                                                                                          | 269, 270 |
| 78 03/06/13    | 125          | 0.2–1.6                                                                                  | 1.0                                                                                      |                                                                                          |                                                                                          | 262      |
| 78 03          | 140          | 0.2–2.1                                                                                  | 1.2                                                                                      |                                                                                          |                                                                                          | 264      |
| 78 23          | 125          | 0.2–1.0                                                                                  | 0.6                                                                                      |                                                                                          |                                                                                          | 262      |
| 78 31/41       | 125          | 0.2–1.0                                                                                  |                                                                                          |                                                                                          |                                                                                          | 262      |
| 78 61/71       | 125          | 0.2–1.6                                                                                  | 1.2                                                                                      |                                                                                          |                                                                                          | 262      |
| 78 61          | 140          | 0.2–2.1                                                                                  | 1.4                                                                                      |                                                                                          |                                                                                          | 264      |
| 78 81/91       | 125          | 0.2–1.6                                                                                  | 1.2                                                                                      | 0.6                                                                                      |                                                                                          | 262      |
| 79 02          | 120          | 0.2–1.4                                                                                  | 1.0                                                                                      | 0.6                                                                                      |                                                                                          | 266, 267 |
| 79 02          | 125          | 0.2–1.7                                                                                  | 1.3                                                                                      | 0.7                                                                                      |                                                                                          | 266, 267 |
| 79 12          | 125          | 0.3–1.7                                                                                  | 1.3                                                                                      | 1.0                                                                                      | 0.6                                                                                      | 266, 267 |
| 79 22          | 120          | 0.1–1.3                                                                                  | 0.8                                                                                      |                                                                                          |                                                                                          | 266, 267 |
| 79 22          | 125          | 0.1–1.7                                                                                  | 1.0                                                                                      |                                                                                          |                                                                                          | 266, 267 |
| 79 32          | 125          | 0.2–1.5                                                                                  | 1.1                                                                                      | 0.6                                                                                      |                                                                                          | 266, 267 |
| 79 42          | 125          | 0.1–1.5                                                                                  | 0.8                                                                                      |                                                                                          |                                                                                          | 266, 267 |
| 79 52          | 125          | 0.2–1.3                                                                                  | 0.9                                                                                      | 0.5                                                                                      |                                                                                          | 266, 267 |
| 79 62          | 125          | 0.1–1.3                                                                                  | 0.8                                                                                      |                                                                                          |                                                                                          | 266, 267 |
| 95 6           | 190          |                                                                                          |                                                                                          | 4.0                                                                                      | 2.5                                                                                      | 178      |
| 99 0           | 200          |                                                                                          | 1.8                                                                                      | 1.4                                                                                      |                                                                                          | 88       |
|                | 220          |                                                                                          | 2.4                                                                                      | 1.6                                                                                      |                                                                                          | 88       |
|                | 250          |                                                                                          | 2.4                                                                                      | 1.6                                                                                      |                                                                                          | 88       |
|                | 280          |                                                                                          | 2.8                                                                                      | 1.8                                                                                      |                                                                                          | 88       |
| 99 1           | 300          |                                                                                          | 3.1                                                                                      | 1.8                                                                                      |                                                                                          | 88       |
|                | 250          |                                                                                          | 3.3                                                                                      | 1.8                                                                                      |                                                                                          | 89       |
|                | 300          |                                                                                          | 3.8                                                                                      | 2.0                                                                                      |                                                                                          | 89       |

## Wire classes

|                                                                                     | Material examples            | Type of wire | Tensile strength  |                    |                                                                                       |
|-------------------------------------------------------------------------------------|------------------------------|--------------|-------------------|--------------------|---------------------------------------------------------------------------------------|
|                                                                                     |                              |              | N/mm <sup>2</sup> | kp/mm <sup>2</sup> |                                                                                       |
|  | Copper, plastics             | soft         | 220               | 22                 |  |
|  | Nail, wire pin               | medium-hard  | 750               | 75                 |  |
|  | Wire rope strand, steel wire | hard         | 1800              | 180                |  |
|  | Spring steel wire            | piano wire   | 2300              | 230                |  |

### Note

The maximum values always indicate the performance limit under the most favourable cutting conditions, when the wire is placed as near as possible to the joint.

Structure of article number



Example of the item number on the pliers handle

| Basic model<br>e. g.<br>KNIPEX Cobra®<br>Hightech Water<br>Pump Pliers | Style<br>e. g.<br>straight | Finish<br>e. g.<br>head<br>polished,<br>handles with<br>multicomponent<br>grips | Length<br>e. g.<br>250 mm | Accessory<br>e. g.<br>Tethered-<br>Tools-<br>range |
|------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------|---------------------------|----------------------------------------------------|
| 87                                                                     | 0                          | 2                                                                               | 250                       | T                                                  |



Safe working: very stable tether attachment, firmly welded to the handle grip for attaching a safety cord or adaptor sling

Head / handles

|   |                                                                                |  |
|---|--------------------------------------------------------------------------------|--|
| 0 | Pliers black atramentized, head polished                                       |  |
| 1 | Head polished, handles plastic coated                                          |  |
| 2 | Head polished, handles with multi-component grips                              |  |
| 3 | Pliers chrome plated, handles plastic coated                                   |  |
| 4 | Pliers chrome plated                                                           |  |
| 5 | Pliers chrome plated, handles with multicomponent grips                        |  |
| 6 | Pliers chrome plated, handles insulated with multi-component grips, VDE-tested |  |
| 7 | Pliers chrome plated, handles with dipped insulation, VDE-tested               |  |

## Pictograms

|                                                                                                    |                                                                             |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
|                   | Packing unit                                                                |
| <b>SB / BK</b>                                                                                     | Carded pliers with euro holes                                               |
| <b>ESD</b><br>    | Electrostatic discharging, dissipative                                      |
| <b>1000 V</b><br> | Insulated according to IEC 60900, usable up to 1000 V AC/1500 V DC          |
|                   | VDE tested, also in compliance with GPSG (Equipment and Product Safety Act) |
|                   | Cu- + Al-multi-conductor cable, solid and multi-stranded                    |
|                   | Wire rope                                                                   |
|                   | Ribbon cable                                                                |
|                   | Steel wire armoured cable (SWA)                                             |
|                   | ACSR cable                                                                  |
|                   | Soft wire                                                                   |
|                   | Medium hard wire                                                            |
|                   | Hard wire                                                                   |
|                   | Piano wire                                                                  |
|                 | Square crimp automatic                                                      |
|                 | Hexagonal crimp automatic                                                   |
|                 | Four mandrel crimp                                                          |
|                 | Mandrel crimp                                                               |
|                 | Trapezoid crimp                                                             |
|                 | Oval crimp                                                                  |
|                 | F-crimp                                                                     |
|                 | Trapezoid indent crimp                                                      |

|                                                                                                                     |                                  |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------|
|                                    | W-crimp                          |
|                                    | Hexagonal crimp                  |
|                                    | Square crimp                     |
|                                    | Tyco crimp                       |
|                                    | Western crimp                    |
|                                    | Trapezoidal crimp front          |
|                                    | Hexagon                          |
|                                    | Hexagonal screw                  |
|                                    | Slotted screw                    |
|                                    | Cross recessed screw             |
|                                    | PlusMinus cross recessed screw   |
|                                    | Pozidriv cross recessed screw    |
|                                    | Torx                             |
|                                    | Capacity double-bit key          |
|                          | Internal square 3/8"             |
|                         | Internal square 1/2"             |
|                                  | Hexagonal socket                 |
|                                  | 12-point                         |
|                                  | Driving Square                   |
|  | Bit holder 1/4" (hexagon socket) |
|                                  | With opening spring              |
|                                  | With lead catcher                |

|                                                                                       |                                          |
|---------------------------------------------------------------------------------------|------------------------------------------|
|    | Internal circlip                         |
|    | External circlip                         |
|    | Retaining ring, straight                 |
|    | Retaining ring, diagonal                 |
|    | Grip ring                                |
|    | Flat jaws                                |
|    | Flat and pointed jaws                    |
|    | Half-round jaws                          |
|    | Round jaws                               |
|    | Angle                                    |
|    | Smooth gripping surfaces                 |
|    | Smooth-serrated gripping surfaces        |
|    | Knurled gripping surfaces                |
|    | Cross-hatched, knurled gripping surfaces |
|   | Centre cutter                            |
|  | Cutting edges with bevel                 |
|  | Cutting edges with small bevel           |
|  | Cutting edges with very small bevel      |
|  | Cutting edges without bevel              |
|  | For flush cut of soft materials          |

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