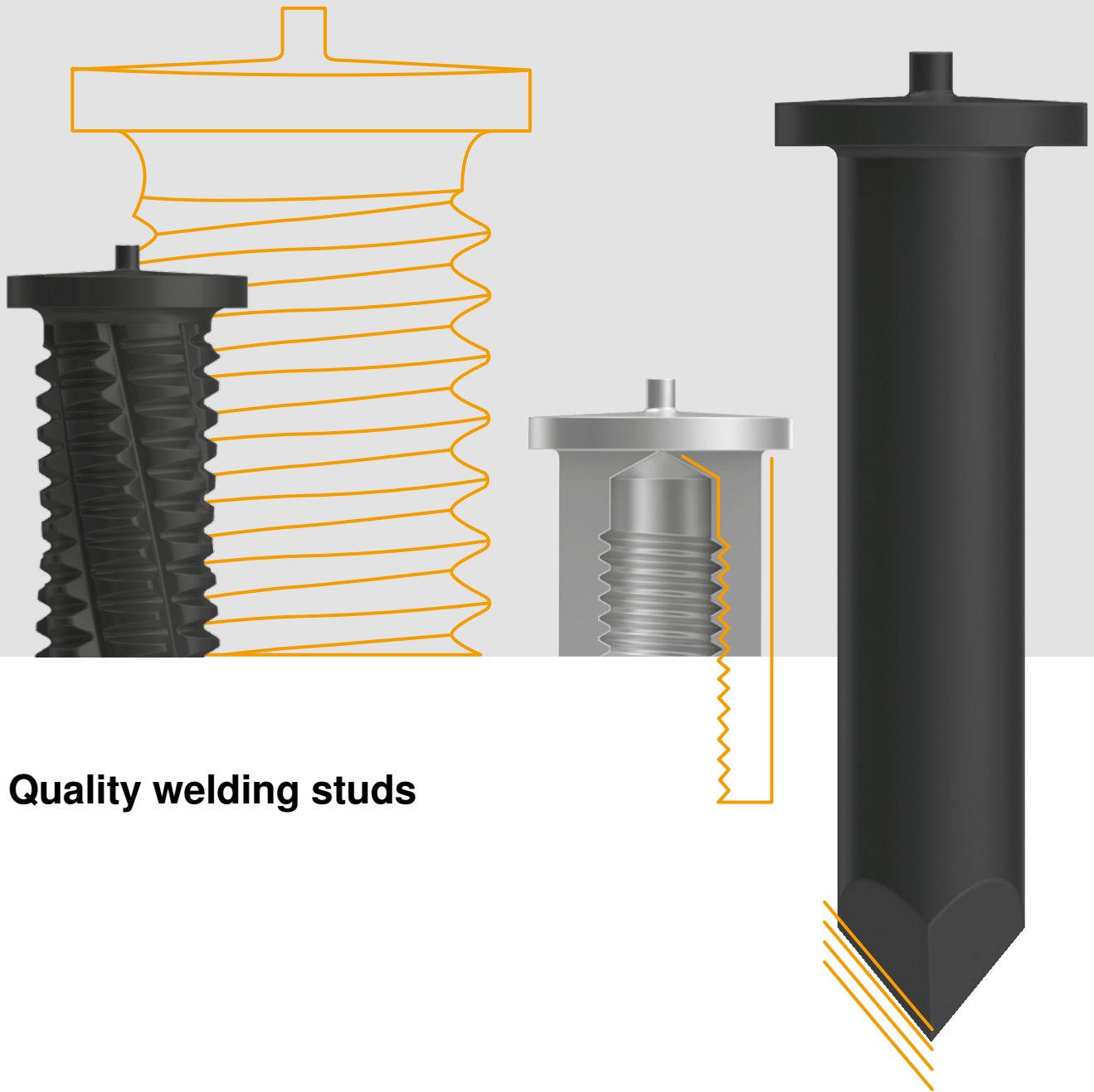




**Quality welding studs**



## Welcome to Customer Service

Use the direct line to OBTEC Customer Service!

On the Service Hotline +49 (0)2373 89-1500, we are available every day from 7.30 a.m. to 5.00 p.m. for any questions about the OBTEC product range for electrical installations. The newly structured OBTEC Customer Service can offer you the full service:

- Competent contacts from your region
- All the information on the OBTEC product range
- Knowledgeable advice on special application topics
- Quick, direct access to all the technical data of the OBTEC products – we also want to provide the best in customer relations!

**Telephone:**

**0 23 73 / 89-1166**

**Fax for requests:**

**0 23 73 / 89-12 38**

**Fax for orders:**

**0 23 73 / 89-12 38**

**E-Mail: [info@obtec.eu](mailto:info@obtec.eu)**

**Internet: [www.obtec.eu](http://www.obtec.eu)**

Contents

|                                                                                     |                                            |    |
|-------------------------------------------------------------------------------------|--------------------------------------------|----|
|    | Welding stud systems                       | 4  |
|    | PT threaded bolt for tip ignition          | 13 |
|    | UT pins for tip ignition                   | 31 |
|    | IT internal threaded bolt for tip ignition | 39 |
|   | ISO nails for tip ignition                 | 45 |
|  | Flat connector for tip ignition            | 51 |
|  | Welding elements for short cycle           | 55 |
|  | Lacquer groove pin for tip ignition        | 61 |
|  | Directories                                | 65 |

## OBO high-quality welding stud



### Product range

The range of welding studs is a reflection of what is required in practice. From all types of threaded bolt to the flat connector in any material and dimensions. As a brand manufacturer, we can offer you:

- Complete welding stud range containing over 2,000 articles
- Proprietary development and production facilities
- Ongoing product maintenance and further development
- Customer-specific special dimensions on request
- Special fastening

### Quality

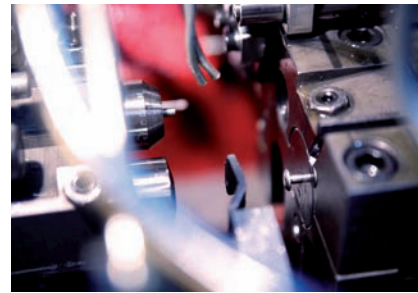
Professionals demand quality. A quality offered by all OBTEC brand products and services connected with stud welding:

- QA certification to DIN EN ISO 9001:2000
  - Tested material and manufacturing quality
- Active involvement in national and international standardisation bodies





## Welding methods



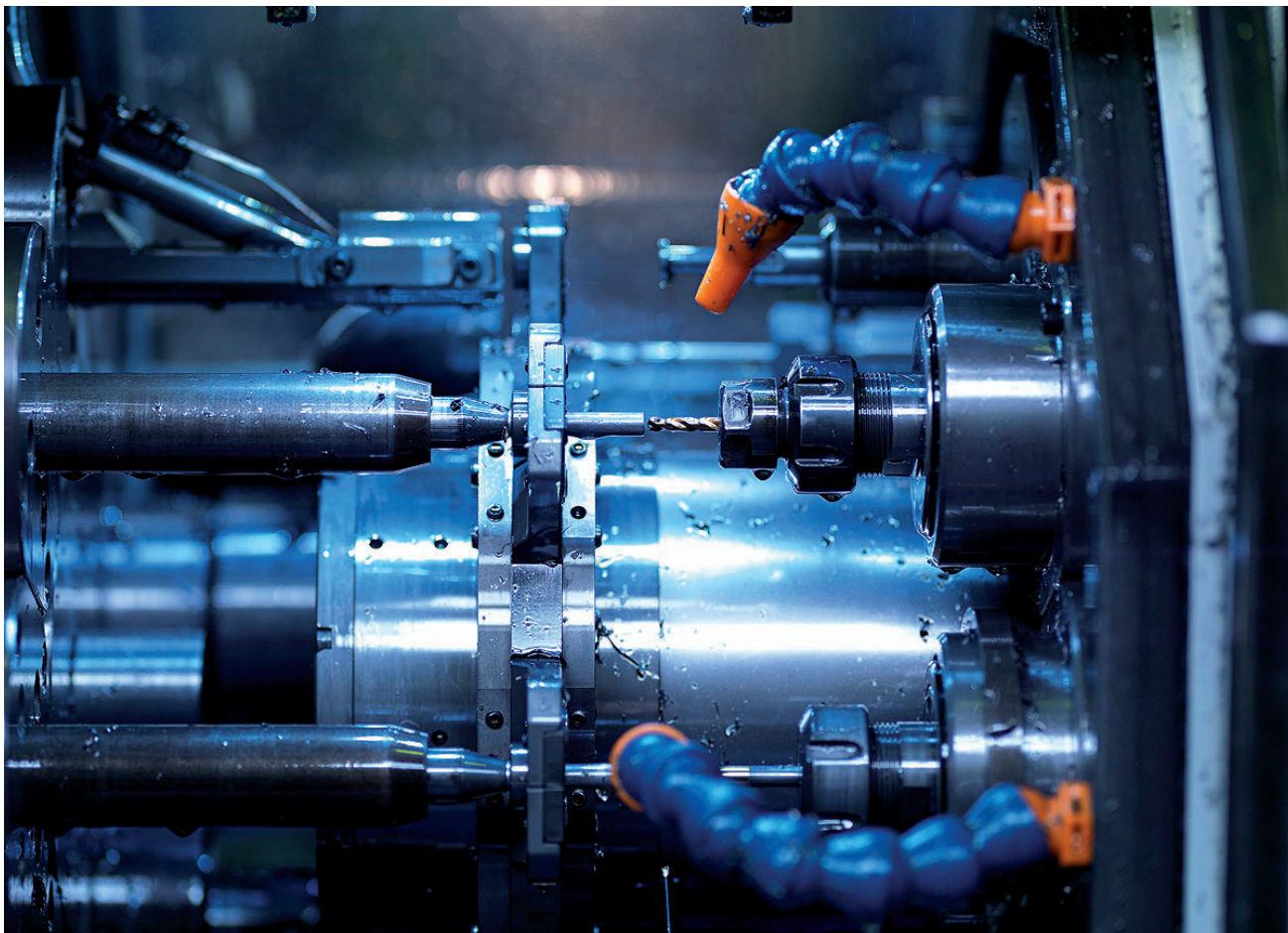
Stud welding is one of the arc stud welding methods. The different methods are described in detail in DIN EN ISO 14555. The fastening elements for stud welding are described in DIN EN ISO 13918; the only applies to rotationally symmetrical components. At OBTEC, these welding studs are created on state-of-the-art multiple die presses through cold reduction. Decades of experience and continuous development of the manufacturing process guarantee the exceptional quality of OBTEC welding studs. In addition, there is a wealth of fastening elements for stud welding, which are not standardised, for example, the flat connector, also called an earthing connector. OBTEC has been producing these punched parts at the highest level of precision for many years. Modern punching tools and presses guarantee a high standard of quality for the fastening elements, as is required for high-quality welding.

### Welding methods

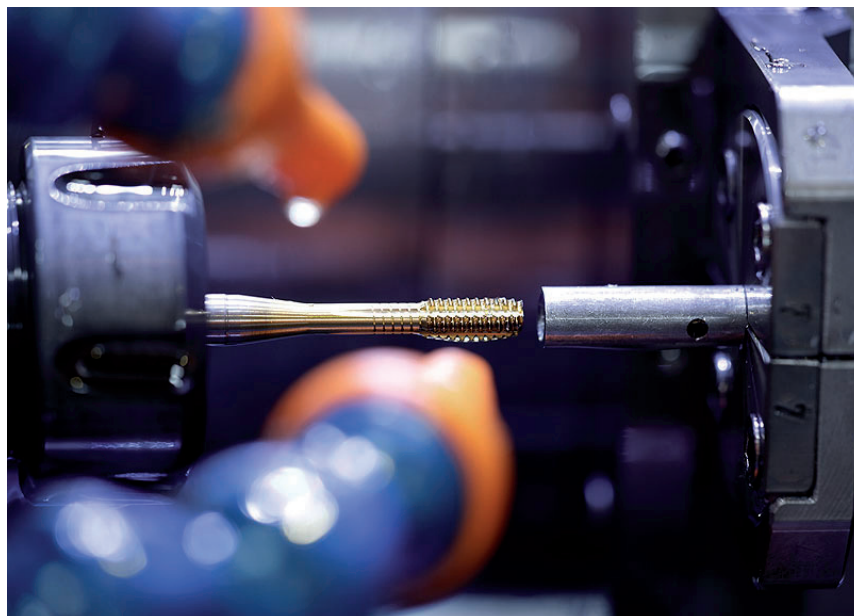
The welding methods are split into two main groups, which prevail in practice, according to the application:

1. Capacitor discharge stud welding with tip ignition. There are two variants of this method: gap welding and contact welding.
2. Stud welding with arc ignition with the subgroup short arc ignition stud welding (short cycle).

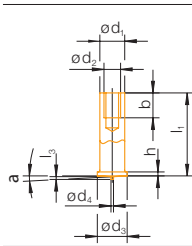
## Technical informations



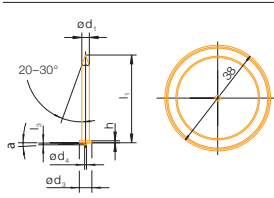
All the threads and stud flanges are created to DIN EN ISO 13918. The flange is a component part of the welding stud. Its diameter is greater than the external diameter of the stud. During welding, it prevents the arc from affecting the cylindrical section of the bolt, simultaneously increasing the welding area.



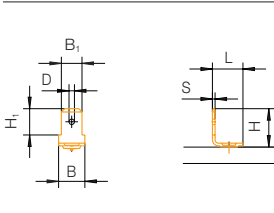
IT internal threaded bolt, DIN EN ISO 13918

|  | $d_1 \pm 0,1$ | $l_1 + 0,6$ | $b + 0,5$ | $d_3 \pm 0,2$ | $d_4 \pm 0,08$ | $l_3 \pm 0,05$ | $h$       | $\alpha \pm 1^\circ \text{ max.}$ |
|-----------------------------------------------------------------------------------|---------------|-------------|-----------|---------------|----------------|----------------|-----------|-----------------------------------|
|                                                                                   | 4             |             | 5         | 6,5           | 0,75           | 0,80           | 0,8 - 1,4 | 3°                                |
|                                                                                   | 5             |             | 6         | 7,5           | 0,75           | 0,80           | 0,8 - 1,4 | 3°                                |
|                                                                                   | 7,1           |             | 7,5       | 9             | 0,75           | 0,85           | 0,7 - 1,4 | 3°                                |

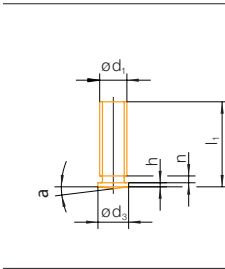
ISO nail

|  | $d_1 \pm 0,1$ | $l_1 + 0,6$ | $d_3 \pm 0,2$ | $d_4 \pm 0,5$ | $l_3 \pm 0,05/-0,02$ | $h \pm 0,2$ | $\alpha \pm 1^\circ \text{ max.}$ |
|------------------------------------------------------------------------------------|---------------|-------------|---------------|---------------|----------------------|-------------|-----------------------------------|
|                                                                                    | 2,1           |             | 3,6           | 0,4           | 0,4                  | 0,6         | 3°                                |
|                                                                                    | 2,6           |             | 4,5           | 0,5           | 0,5                  | 0,7         | 3°                                |
|                                                                                    | 3             |             | 5,0           | 0,7           | 0,7                  | 0,7         | 3°                                |

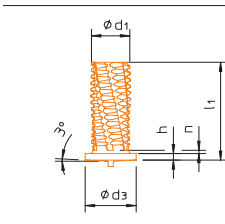
Flat connector

|  | $S \pm 0,03$ | $H \pm 0,3$ | $H_1 + 0,5$ | $D + 0,2$ | $B \pm 0,2$ | $B_1 + 0,1$ | $L$ |
|-------------------------------------------------------------------------------------|--------------|-------------|-------------|-----------|-------------|-------------|-----|
|                                                                                     | 0,8          | 11,5        | 8           | 1,65      | 8           | 6,3         | 10  |

Short cycle threaded bolt

|  | $d_1$ | $l_1 + 0,6$ | $d_3 \pm 0,2$ | $h$       | $n \text{ max.}$ | $\alpha \pm 1^\circ \text{ max.}$ |
|-------------------------------------------------------------------------------------|-------|-------------|---------------|-----------|------------------|-----------------------------------|
|                                                                                     | M 3   |             | 4             | 0,7 - 1,4 | 1,5              | 7°                                |
|                                                                                     | M 4   |             | 5             | 0,7 - 1,4 | 1,5              | 7°                                |
|                                                                                     | M 5   |             | 6             | 0,8 - 1,4 | 2,0              | 7°                                |
|                                                                                     | M 6   |             | 7             | 0,8 - 1,4 | 2,0              | 7°                                |
|                                                                                     | M 8   |             | 9             | 0,8 - 1,4 | 2,0              | 7°                                |
|                                                                                     | M 8   |             | 11            | 0,7 - 1,4 | 2,0              | 3°                                |

Lacquer groove pin

|  | $d_1$ | $l_1 + 0,6$ | $d_3 \pm 0,2$ | $h$       | $n \text{ max.}$ | $\alpha \pm 1^\circ \text{ max.}$ |
|-------------------------------------------------------------------------------------|-------|-------------|---------------|-----------|------------------|-----------------------------------|
|                                                                                     | M 5   |             | 6,5           | 0,8 - 1,4 | 2,0              | 3°                                |
|                                                                                     | M 6   |             | 7,5           | 0,8 - 1,4 | 2,0              | 3°                                |
|                                                                                     | M 8   |             | 9,0           | 0,8 - 1,4 | 2,0              | 3°                                |

## Pictogram explanation

### Welding method

|                                                                                   |              |
|-----------------------------------------------------------------------------------|--------------|
|  | Tip ignition |
|  | Short cycle  |

### Materials

|                                                                                   |                            |
|-----------------------------------------------------------------------------------|----------------------------|
|  | Aluminium                  |
|  | Stainless steel, grade 305 |
|  | Brass                      |
|  | Steel                      |

### Thread metric

|                                                                                     |                       |
|-------------------------------------------------------------------------------------|-----------------------|
|    | Metric thread, 2.5 mm |
|    | Metric thread, 3 mm   |
|    | Metric thread, 4 mm   |
|    | Metric thread, 5 mm   |
|  | Metric thread, 6 mm   |
|  | Metric thread, 8 mm   |
|  | Metric thread, 10 mm  |

### Diameter

|                                                                                     |                 |
|-------------------------------------------------------------------------------------|-----------------|
|  | Diameter 2.1 mm |
|  | Diameter 2.6 mm |
|  | Diameter 3 mm   |
|  | Diameter 4 mm   |
|  | Diameter 5 mm   |
|  | Diameter 6 mm   |
|  | Diameter 7.1 mm |

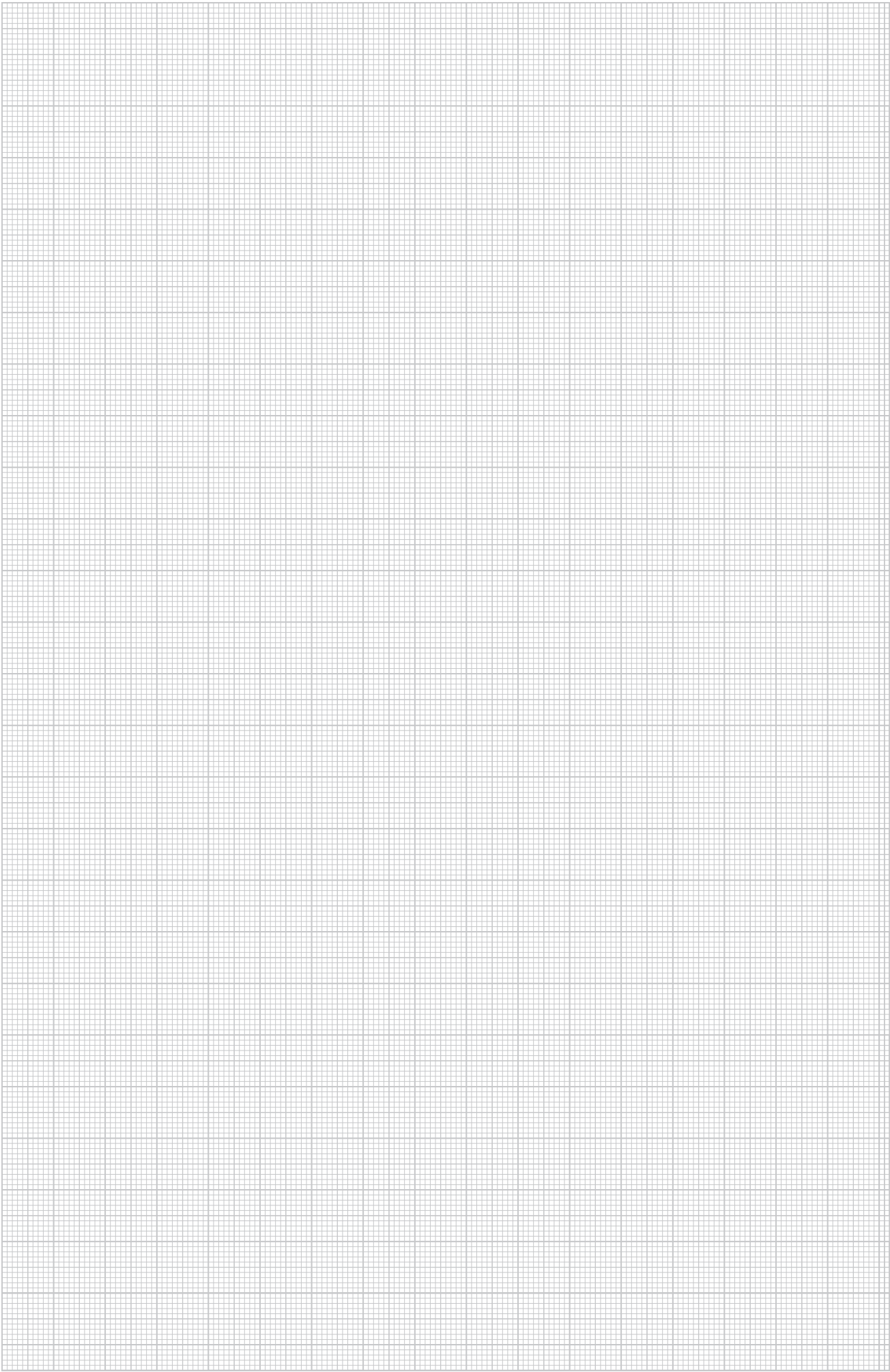
### Thread types

|                                                                                     |            |
|-------------------------------------------------------------------------------------|------------|
|  | UNC thread |
|  | UNF thread |

### Materials

|                                                                                     |                                |
|-------------------------------------------------------------------------------------|--------------------------------|
|  | Flat connector with 90° angle  |
|  | Flat connector with 135° angle |





## Threaded bolt, metric

### Threaded bolt, steel, copper-plated St 37-3

| Type               | Metrical thread | Length<br>mm | Material | Quality | Surface       | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.         |
|--------------------|-----------------|--------------|----------|---------|---------------|-----------------------|---------------|----------------------|------------------|
| <b>1 GM 8 x 10</b> | M8              | 10           | Steel    | 4,8     | Copper-plated | 4000                  | 1000          | 0,326                | <b>4028 60 0</b> |
| <b>1 GM 8 x 12</b> | M8              | 12           | Steel    | 4,8     | Copper-plated | 3000                  | 1000          | 0,387                | <b>4028 93 7</b> |
| <b>1 GM 8 x 15</b> | M8              | 15           | Steel    | 4,8     | Copper-plated | 2000                  | 1000          | 0,479                | <b>4028 61 9</b> |
| <b>1 GM 8 x 16</b> | M8              | 16           | Steel    | 4,8     | Copper-plated | 2000                  | 1000          | 0,509                | <b>4028 87 2</b> |
| <b>1 GM 8 x 20</b> | M8              | 20           | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 0,632                | <b>4028 62 7</b> |
| <b>1 GM 8 x 25</b> | M8              | 25           | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 0,785                | <b>4028 63 5</b> |
| <b>1 GM 8 x 30</b> | M8              | 30           | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 0,938                | <b>4028 64 3</b> |
| <b>1 GM 8 x 35</b> | M8              | 35           | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 1,091                | <b>4028 65 1</b> |
| <b>1 GM 8 x 40</b> | M8              | 40           | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 1,244                | <b>4028 67 8</b> |
| <b>1 GM 8 x 45</b> | M8              | 45           | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 1,398                | <b>4028 68 6</b> |
| <b>1 GM 8 x 50</b> | M8              | 50           | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 1,551                | <b>4028 69 4</b> |

St Steel

Cu Copper-plated

price/1,000 pc.



PT threaded bolt for tip ignition



### Threaded bolt, steel, copper-plated St 37-3

| Type                | Metrical thread | Length<br>mm | Material | Quality | Surface       | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.         |
|---------------------|-----------------|--------------|----------|---------|---------------|-----------------------|---------------|----------------------|------------------|
| <b>1 GM 10 x 20</b> | M10             | 20           | Steel    | 4,8     | Copper-plated | 500                   | 500           | 0,995                | <b>4027 52 3</b> |
| <b>1 GM 10 x 25</b> | M10             | 25           | Steel    | 4,8     | Copper-plated | 500                   | 500           | 1,238                | <b>4027 53 1</b> |
| <b>1 GM 10 x 30</b> | M10             | 30           | Steel    | 4,8     | Copper-plated | 500                   | 500           | 1,481                | <b>4027 55 8</b> |
| <b>1 GM 10 x 35</b> | M10             | 35           | Steel    | 4,8     | Copper-plated | 500                   | 500           | 1,724                | <b>4027 56 6</b> |
| <b>1 GM 10 x 40</b> | M10             | 40           | Steel    | 4,8     | Copper-plated | 500                   | 500           | 1,967                | <b>4027 57 4</b> |
| <b>1 GM 10 x 50</b> | M10             | 50           | Steel    | 4,8     | Copper-plated | 500                   | 500           | 2,515                | <b>4027 59 0</b> |

St Steel

Cu Copper-plated

price/1,000 pc.





Contents

|                                                                                   |                        |                              |    |
|-----------------------------------------------------------------------------------|------------------------|------------------------------|----|
|  | ISO nail               | Steel, copper-plated St 37-3 | 46 |
|  |                        | Stainless steel, grade 305   | 47 |
|  |                        | Aluminium, AlMg 3            | 48 |
|  | Grommets for ISO nails |                              | 49 |



## ISO nail



### ISO nail, Steel, copper-plated St 37-3

| Type         | Nail diameter<br>mm | Length<br>mm | Material | Quality | Surface       | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.  |
|--------------|---------------------|--------------|----------|---------|---------------|-----------------------|---------------|----------------------|-----------|
| 1 P 2,0 x 20 | 2                   | 20           | St       | 4,8     | Copper-plated | 15000                 | 1000          | 0,050                | 4066 01 4 |
| 1 P 2,0 x 40 | 2                   | 40           | St       | 4,8     | Copper-plated | 6000                  | 1000          | 0,097                | 4066 04 9 |
| 1 P 2,0 x 50 | 2                   | 50           | St       | 4,8     | Copper-plated | 4000                  | 1000          | 0,121                | 4066 05 7 |

St Steel

Cu Copper-plated

price/1,000 pc.



### ISO nail, Steel, copper-plated St 37-3

| Type         | Nail diameter<br>mm | Length<br>mm | Material | Quality | Surface       | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.  |
|--------------|---------------------|--------------|----------|---------|---------------|-----------------------|---------------|----------------------|-----------|
| 1 P 2,6 x 15 | 2,6                 | 15           | St       | 4,8     | Copper-plated | 1000                  | 1000          | 0,059                | 4066 20 0 |
| 1 P 2,6 x 20 | 2,6                 | 20           | St       | 4,8     | Copper-plated | 12000                 | 1000          | 0,079                | 4066 21 9 |
| 1 P 2,6 x 30 | 2,6                 | 30           | St       | 4,8     | Copper-plated | 7000                  | 1000          | 0,121                | 4066 23 5 |
| 1 P 2,6 x 50 | 2,6                 | 50           | St       | 4,8     | Copper-plated | 6000                  | 1000          | 0,204                | 4066 25 1 |
| 1 P 2,6 x 60 | 2,6                 | 60           | St       | 4,8     | Copper-plated | 1000                  | 1000          | 0,246                | 4066 27 8 |

St Steel

Cu Copper-plated

price/1,000 pc.



### ISO nail, Steel, copper-plated St 37-3

| Type        | Nail diameter<br>mm | Length<br>mm | Material | Quality | Surface       | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.  |
|-------------|---------------------|--------------|----------|---------|---------------|-----------------------|---------------|----------------------|-----------|
| 1 P 3 x 20  | 3                   | 20           | St       | 4,8     | Copper-plated | 10000                 | 1000          | 0,108                | 4066 41 3 |
| 1 P 3 x 25  | 3                   | 25           | St       | 4,8     | Copper-plated | 7000                  | 1000          | 0,131                | 4066 42 1 |
| 1 P 3 x 30  | 3                   | 30           | St       | 4,8     | Copper-plated | 5000                  | 1000          | 0,157                | 4066 44 8 |
| 1 P 3 x 35  | 3                   | 35           | St       | 4,8     | Copper-plated | 5000                  | 1000          | 0,191                | 4066 39 1 |
| 1 P 3 x 40  | 3                   | 40           | St       | 4,8     | Copper-plated | 4000                  | 1000          | 0,219                | 4066 45 6 |
| 1 P 3 x 50  | 3                   | 50           | St       | 4,8     | Copper-plated | 3000                  | 1000          | 0,275                | 4066 46 4 |
| 1 P 3 x 60  | 3                   | 60           | St       | 4,8     | Copper-plated | 1000                  | 1000          | 0,326                | 4066 47 2 |
| 1 P 3 x 80  | 3                   | 80           | St       | 4,8     | Copper-plated | 1000                  | 1000          | 0,436                | 4066 49 9 |
| 1 P 3 x 90  | 3                   | 90           | St       | 4,8     | Copper-plated | 1000                  | 1000          | 0,492                | 4066 50 2 |
| 1 P 3 x 100 | 3                   | 100          | St       | 4,8     | Copper-plated | 1000                  | 1000          | 0,547                | 4066 51 0 |

St Steel

Cu Copper-plated

price/1,000 pc.



## ISO nail, Stainless steel, grade 305



| Type                | Nail diameter<br>mm | Length<br>mm | Material | Quality | Surface | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.         |
|---------------------|---------------------|--------------|----------|---------|---------|-----------------------|---------------|----------------------|------------------|
| <b>2 P 2,0 x 30</b> | 2                   | 30           | V2A      | 1,4303  | Pickled | 10000                 | 1000          | 0,074                | <b>4068 03 3</b> |
| <b>2 P 2,0 x 40</b> | 2                   | 40           | V2A      | 1,4303  | Pickled | 6000                  | 1000          | 0,097                | <b>4068 04 1</b> |
| <b>2 P 2,0 x 50</b> | 2                   | 50           | V2A      | 1,4303  | Pickled | 4000                  | 1000          | 0,121                | <b>4068 06 8</b> |
| <b>2 P 2,0 x 60</b> | 2                   | 60           | V2A      | 1,4303  | Pickled | 1000                  | 1000          | 0,144                | <b>4068 07 6</b> |
| <b>2 P 2,0 x 90</b> | 2                   | 90           | V2A      | 1,4303  | Pickled | 1000                  | 1000          | 0,214                | <b>4068 10 6</b> |

V2A Stainless steel, grade 305

Pickled

price/1,000 pc.



## ISO nail, Stainless steel, grade 305



| Type                | Nail diameter<br>mm | Length<br>mm | Material | Quality | Surface | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.         |
|---------------------|---------------------|--------------|----------|---------|---------|-----------------------|---------------|----------------------|------------------|
| <b>2 P 2,6 x 20</b> | 2,6                 | 20           | V2A      | 1,4303  | Pickled | 12000                 | 1000          | 0,079                | <b>4068 21 1</b> |
| <b>2 P 2,6 x 25</b> | 2,6                 | 25           | V2A      | 1,4303  | Pickled | 10000                 | 1000          | 0,100                | <b>4068 23 8</b> |
| <b>2 P 2,6 x 30</b> | 2,6                 | 30           | V2A      | 1,4303  | Pickled | 7000                  | 1000          | 0,121                | <b>4068 24 6</b> |
| <b>2 P 2,6 x 40</b> | 2,6                 | 40           | V2A      | 1,4303  | Pickled | 5000                  | 1000          | 0,163                | <b>4068 25 4</b> |
| <b>2 P 2,6 x 50</b> | 2,6                 | 50           | V2A      | 1,4303  | Pickled | 6000                  | 1000          | 0,204                | <b>4068 26 2</b> |
| <b>2 P 2,6 x 60</b> | 2,6                 | 60           | V2A      | 1,4303  | Pickled | 1000                  | 1000          | 0,246                | <b>4068 27 0</b> |
| <b>2 P 2,6 x 80</b> | 2,6                 | 80           | V2A      | 1,4303  | Pickled | 1000                  | 1000          | 0,332                | <b>4068 29 7</b> |

V2A Stainless steel, grade 305

Pickled

price/1,000 pc.



## ISO nail, Stainless steel, grade 305



| Type              | Nail diameter<br>mm | Length<br>mm | Material | Quality | Surface | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.         |
|-------------------|---------------------|--------------|----------|---------|---------|-----------------------|---------------|----------------------|------------------|
| <b>2 P 3 x 15</b> | 3                   | 15           | V2A      | 1,4303  | Pickled | 10000                 | 1000          | 0,081                | <b>4068 40 8</b> |
| <b>2 P 3 x 20</b> | 3                   | 20           | V2A      | 1,4303  | Pickled | 10000                 | 1000          | 0,108                | <b>4068 41 6</b> |
| <b>2 P 3 x 25</b> | 3                   | 25           | V2A      | 1,4303  | Pickled | 7000                  | 1000          | 0,132                | <b>4068 42 4</b> |
| <b>2 P 3 x 30</b> | 3                   | 30           | V2A      | 1,4303  | Pickled | 5000                  | 1000          | 0,157                | <b>4068 43 2</b> |
| <b>2 P 3 x 40</b> | 3                   | 40           | V2A      | 1,4303  | Pickled | 4000                  | 1000          | 0,219                | <b>4068 44 0</b> |
| <b>2 P 3 x 50</b> | 3                   | 50           | V2A      | 1,4303  | Pickled | 3000                  | 1000          | 0,275                | <b>4068 45 9</b> |
| <b>2 P 3 x 60</b> | 3                   | 60           | V2A      | 1,4303  | Pickled | 1000                  | 1000          | 0,328                | <b>4068 46 7</b> |

V2A Stainless steel, grade 305

Pickled

price/1,000 pc.



ISO nail for tip ignition





ISO nail



Ø3



ISO nail, Aluminium, AlMg 3

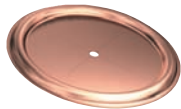
| Type       | Nail diameter<br>mm | Length<br>mm | Material | Quality | Surface | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.  |
|------------|---------------------|--------------|----------|---------|---------|-----------------------|---------------|----------------------|-----------|
| 4 P 3 x 25 | 3                   | 25           | Al       | AlMg 3  | —       | 7000                  | 1000          | 0,045                | 4070 42 9 |
| 4 P 3 x 30 | 3                   | 30           | Al       | AlMg 3  | —       | 5000                  | 1000          | 0,054                | 4070 43 7 |
| 4 P 3 x 40 | 3                   | 40           | Al       | AlMg 3  | —       | 4000                  | 1000          | 0,075                | 4070 44 5 |
| 4 P 3 x 50 | 3                   | 50           | Al       | AlMg 3  | —       | 3000                  | 1000          | 0,094                | 4070 45 3 |
| 4 P 3 x 60 | 3                   | 60           | Al       | AlMg 3  | —       | 1000                  | 1000          | 0,112                | 4070 46 1 |
| 4 P 3 x 70 | 3                   | 70           | Al       | AlMg 3  | —       | 1000                  | 1000          | 0,131                | 4070 48 8 |
| 4 P 3 x 80 | 3                   | 80           | Al       | AlMg 3  | —       | 1000                  | 1000          | 0,150                | 4070 49 6 |

Al Aluminium

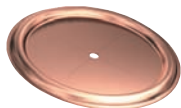
price/1,000 pc.

## Grommet for ISO nail

| Grommet |          |         |               |                       |               |                      |           |  |
|---------|----------|---------|---------------|-----------------------|---------------|----------------------|-----------|--|
| Type    | Material | Quality | Surface       | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.  |  |
| IC-2.6  | Steel    | 4,8     | Copper-plated | 1000                  | 1000          | 0,260                | 4071 98 0 |  |
| St      | Steel    |         |               |                       |               | price/1,000 pc.      |           |  |



| Grommet |          |         |            |                       |               |                      |           |  |
|---------|----------|---------|------------|-----------------------|---------------|----------------------|-----------|--|
| Type    | Material | Quality | Surface    | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.  |  |
| IC-2.6  | Steel    | 4,8     | Galvanised | 1000                  | 1000          | 0,440                | 4071 99 9 |  |
| St      | Steel    |         |            |                       |               | price/1,000 pc.      |           |  |



| Grommet |               |         |         |                       |               |                      |           |  |
|---------|---------------|---------|---------|-----------------------|---------------|----------------------|-----------|--|
| Type    | Material      | Quality | Surface | Shipping box<br>Units | Pack<br>Units | Weight<br>kg/100 pc. | Item no.  |  |
| ISC-K   | Polypropylene | PP      | —       | 1000                  | 1000          | 0,235                | 4080 10 6 |  |
| PP      | Polypropylene |         |         |                       |               | price/1,000 pc.      |           |  |



ISO nail for tip ignition

