

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

Internet: www.obtec.eu

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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

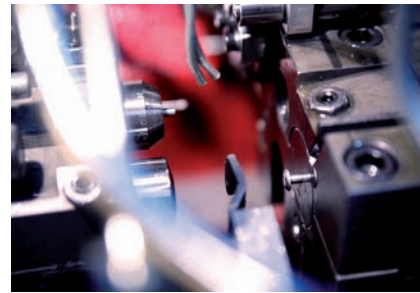
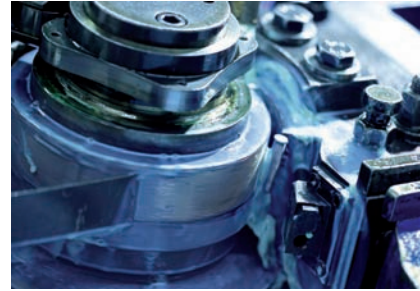
Quality

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



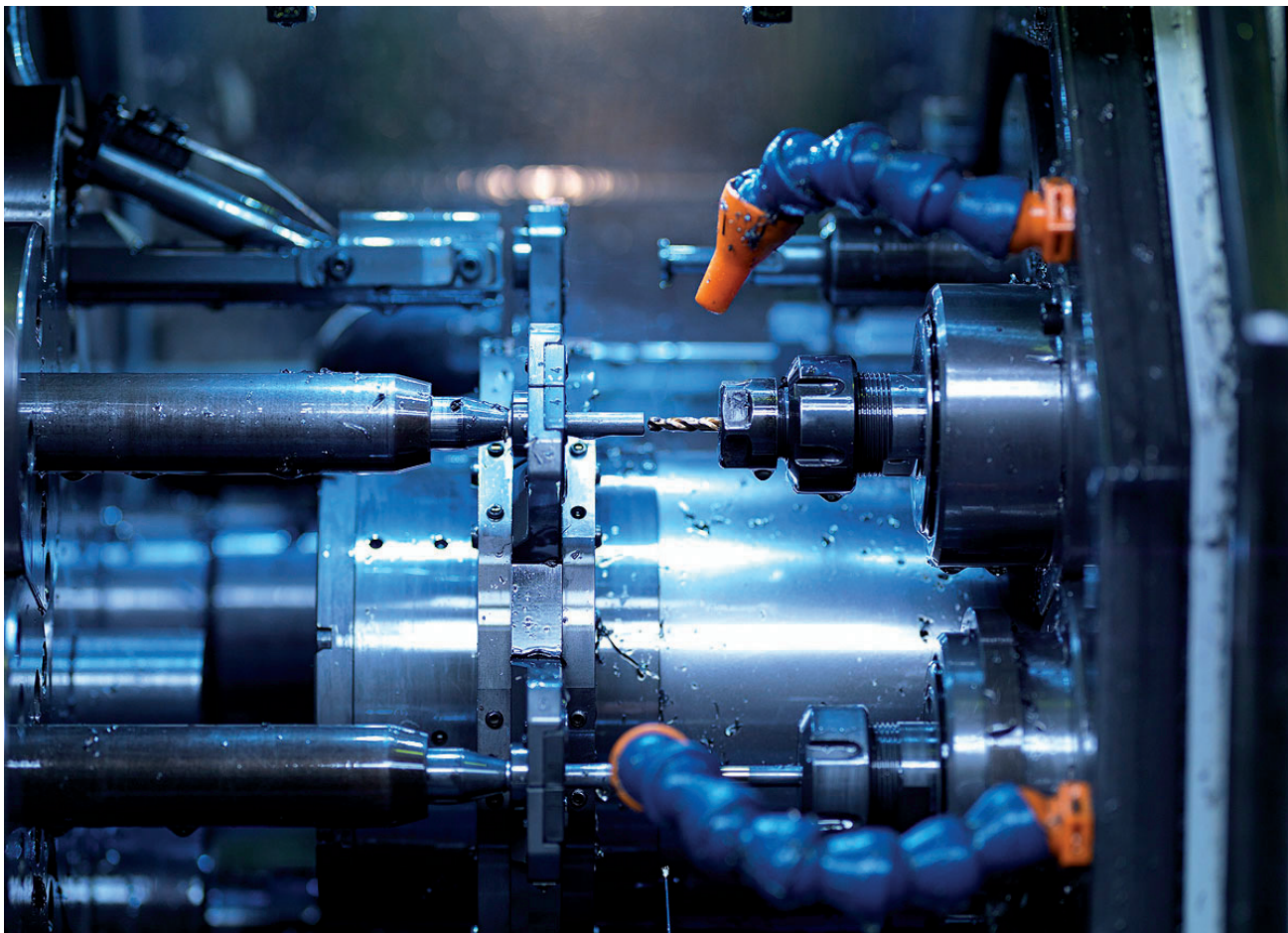
Stud welding is one of the arc stud welding methods. The different methods are described in detail in DIN EN ISO 14555. The fastening elements for stud welding are described in DIN EN ISO 13918; the only applies to rotationally symmetrical components. At OBTEC, these welding studs are created on state-of-the-art 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

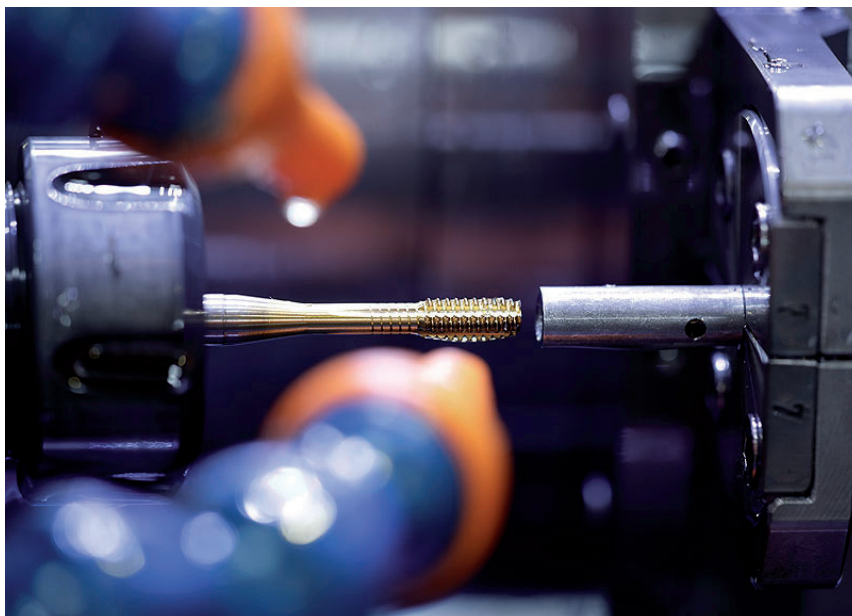
The welding methods are split into two main groups, which prevail in practice, according to the application:

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

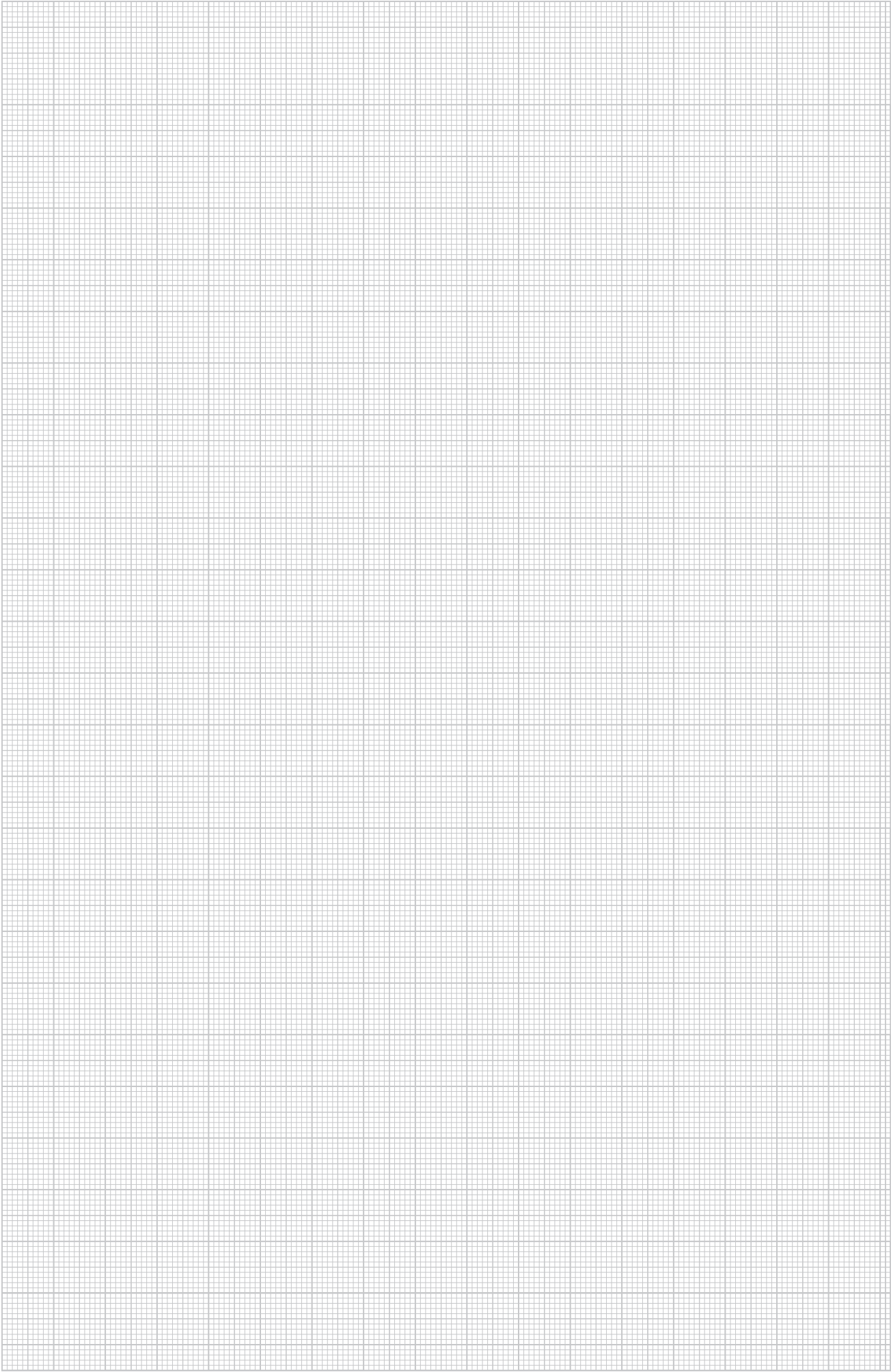
	Diameter 2.1 mm
	Diameter 2.6 mm
	Diameter 3 mm
	Diameter 4 mm
	Diameter 5 mm
	Diameter 6 mm
	Diameter 7.1 mm

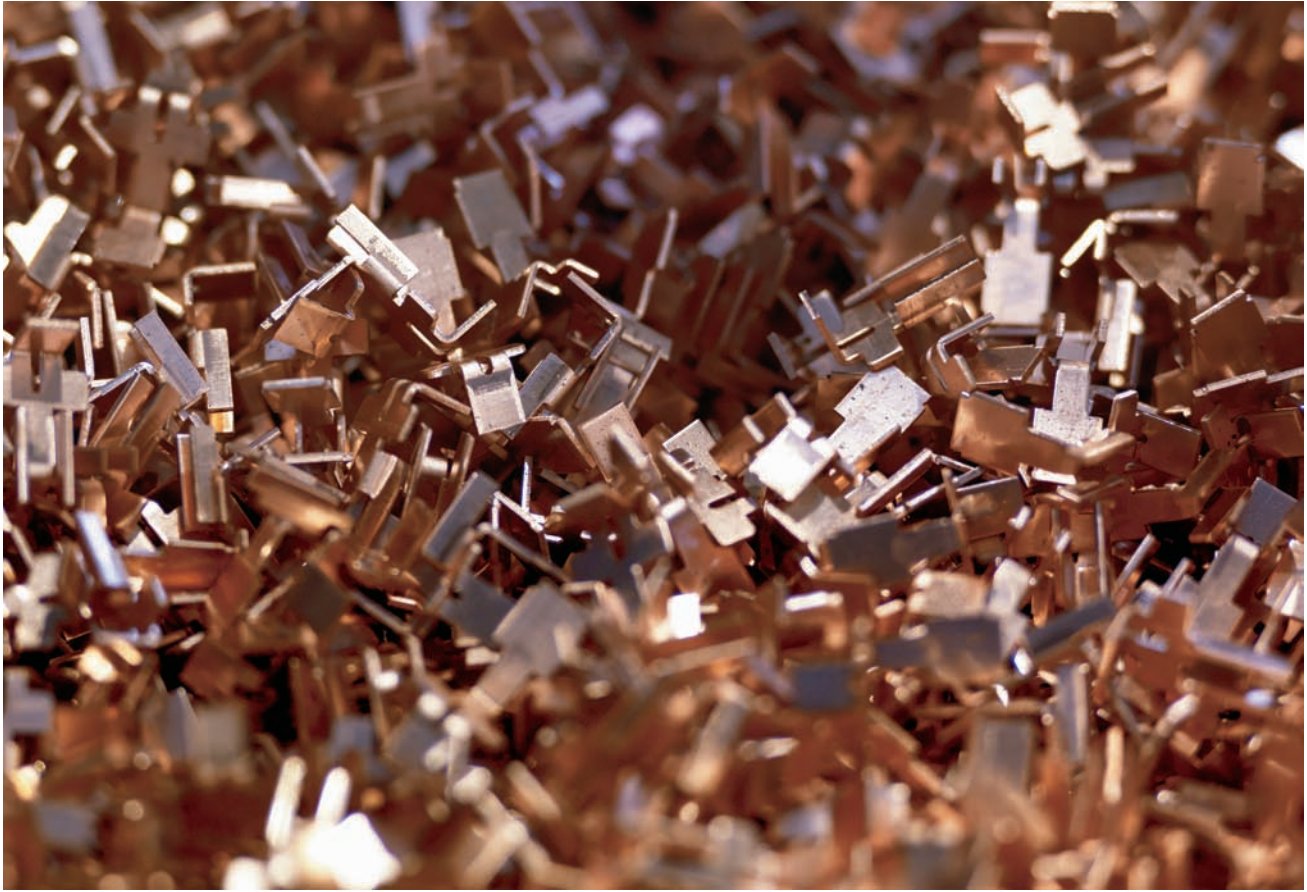
Thread types

	UNC thread
	UNF thread


Materials

	Flat connector with 90° angle
	Flat connector with 135° angle





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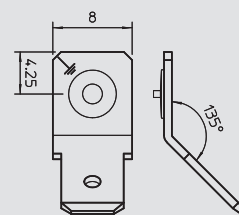
Flat connector in earthing area



Flat connector

Type	Material	Quality	Surface	Shipping box Units	Pack Units	Weight kg/100 pc.	Item no.
TS-FS 63-1	Steel	DC 03	Copper-plated	6000	1000	0,100	4072 17 0
St	Steel	Cu	Copper-plated				price/1,000 pc.

135 degrees with 6.3 mm connection, strip steel, 0.8 mm section



Flat connector

Type	Material	Quality	Surface	Shipping box Units	Pack Units	Weight kg/100 pc.	Item no.
TS-FS 63-1	Steel	DC 03	Copper-plated	6000	1000	0,150	4072 20 0
St	Steel	Cu	Copper-plated				price/1,000 pc.

90 degrees with 6.3 mm connection, strip steel, 0.8 mm section

Flat connector

Type	Material	Quality	Surface	Shipping box Units	Pack Units	Weight kg/100 pc.	Item no.
TS-FS 63-2	V2A	1,4301	Pickled	6000	1000	0,110	4072 06 5
V2A	Stainless steel, grade 304		Pickled				price/1,000 pc.

90 degrees with 6.3 mm connection, stainless steel strip, 0.8 mm section



Flat connector

Type	Material	Quality	Surface	Shipping box Units	Pack Units	Weight kg/100 pc.	Item no.
TS-FS 63-4	Aluminium	AlMg 3	—	6000	1000	0,050	4072 03 0
Al	Aluminium						price/1,000 pc.

90 degrees with 6.3 mm connection, strip aluminium, 0.8 mm section



Flat connector

Type	Material	Quality	Surface	Shipping box Units	Pack Units	Weight kg/100 pc.	Item no.
TS-FS 63-6	Brass	CuZn37	—	6000	1000	0,098	4072 01 4
CuZn	Brass						price/1,000 pc.

90 degrees with 6.3 mm connection, brass strip, 0.8 mm section



