

# Starlock<sup>®</sup> Push-On Fasteners





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# Starlock® push-on fasteners



## Baker & Finncore Ltd.

Founded in 1850, Baker & Finncore is a company with a rich tradition situated in the centre of Birmingham. At the time, it was one of the largest producers of steel fountain pen nibs. In those days, the United Kingdom led the world in the production of industrial fountain pens. In the 1950s, the people at Baker & Finncore saw the potential that axial fasteners had to offer and launched the

globally renowned STARLOCK® push-on fasteners.

Since 1963, Titgemeyer has been supplying STARLOCK® push-on fasteners and STARPRESS™ precision pressings to over 50 countries.

Baker & Finncore became a member of TITGEMEYER Group in 2012.

As your expert partner for everything from an idea to product development and series production, we know how to successfully implement customer-specific requirements. Every division of Baker & Finncore is subjected to a continuous improvement process which entails a zero-error strategy.



### Stamping, heat treatment and surface finishing

Our modern machine outfit includes high-performance stamping presses with a press force of up to 110 t and a speed of up to 1000 strokes per minute. Sophisticated manufacturing control systems ensure that the quality remains the same from the first to the very last part. Special finishing tools round off our machine outfit.

Our in-house heat treatment shop takes care of all heat-treating. With every key process being performed in-house, we can guarantee all of our products have the same high quality. Our surface finishing machines are deployed for edge chamfering.

Specific customer requirements, such as optical sorting or various surface finishes, are carried out by certified partners that we additionally audit.



### Tooling manufacture and prototype production

Perfect tools ensure our products are of outstanding quality! In our tooling manufacture shop, we rely on modern technology to achieve cost savings across the entire process. Every tool used in our stamping and press shop is designed and built by our company. This gives us the flexibility to respond to changing customer needs. Our compound tooling and die sets stand out for their long tool life and service life.

We also manufacture prototypes or pre-series parts. Piloting tools are used to manufacture your samples. We can generally reimburse the costs involved if you place a serial production order. Confidentiality, flexibility and adherence to production deadlines are all second nature to us.



### Quality

Quality products require the right processes. Baker & Finncore is accredited to the following quality management systems:

- EN 9100:2018 (AS9100D)
- IATF 16949:2016
- ISO 9001:2015
- ISO 14001:2015
- OHSAS 18001:2007



# Push on – DONE!



STARLOCK® push on fasteners can be used on smooth, non-grooved axles, shafts or cylindrical pins made of metal or plastic to secure components. The complex manufacture of grooves or notches on axles or shafts is not required. This saves time and money. STARLOCK® can secure any type of component and offers a simple solution for demanding applications.

## Quality products made in-house

STARLOCK® push on fasteners are exceptionally quick and easy to install. Due to the large variety of applications, a wide range of washers is available. STARLOCK® push on fasteners have been developed for fastening applications on round or square axles and shafts.

The various products are available in diameters ranging between 1.5 mm and 25 mm or sizes ranging from 1/16" to 1". All STARLOCK® products are produced in-house to a high quality standards. This is done using our own tool and mould making facilities, the initial sample development and our own heat treatment and finishing plants.



### Lastingly secure with a flick of the wrist

A basic STARLOCK® assembly tool is all that is needed for fast, secure installation. STARLOCK® fasteners are pushed on using varying sizes of magnetic ferrules. A minimal application of force is required to install them. By contrast, the force required to remove them is many times higher, thus ensuring that the components in question remain permanently fixed. They can be installed using the STARLOCK® assembly tool but also through an automated process.



### STARLOCK® - at a glance

- Permanent and secure installation
- Replaces snap rings, cotter pins, studs and nuts
- No prepping of the shaft required
- Low-cost installation for competitive calculations
- Simplifies the design
- No threading required
- Automated installation process possible
- RoHS-compatible



# A product for every scenario

Push-on fasteners can be supplied in spring steel with a varnish or mechanical zinc plated finish. Where corrosion protection is a crucial requirement, they can also be manufactured in stainless steel. Push-on fasteners are also available with a decorative cap and a large number of bespoke solutions. The highly flexible production setup is also able to create other customised designs, such as very extra-high-strength fasteners, special geometric variants as well as staining options for plastic caps, or



even printed or stamped company or brand logos.



Titgemeyer's specialists are on hand to offer individual advice.





### STARLOCK® varnished push-on fasteners

Varnished push on fasteners made of 1.1231 spring steel are part of the standard range. To aid identification, metric STARLOCK® push on fasteners are varnished brown and imperial STARLOCK® push on fasteners are varnished blue.



### STARLOCK® mechanical zinc push-on fasteners

Also made of 1.1231 spring steel, these push-on fasteners have a mechanical zinc finish. They completely rule out the risk of hydrogen embrittlement and offer a very good level of corrosion protection.



### STARLOCK® A2 stainless steel push-on fasteners

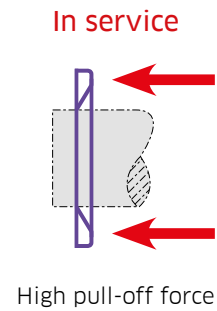
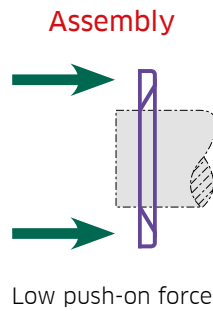
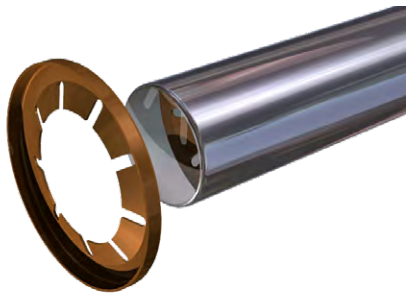
Push on fasteners made of 1.4310 stainless steel come with excellent corrosion protection. They are used where the use of plated spring steel washers is not possible.



### STARLOCK® push-on fasteners with cap

STARLOCK® push on fasteners with a fixed cap are ideally suited to apply at the end of a shaft. The components are thereby secured in place while, at the same time, the cap provides a visually appealing, decorative finish. Both the standard and the deep caps are made of stainless steel; the extra-deep cap is steel with a zinc finish. In addition, caps made of PA 6 plastic in the whole range of RAL colours can be fitted to the push on fasteners. Further individual solutions are also possible.

## Ingeniously simple! – STARLOCK® products

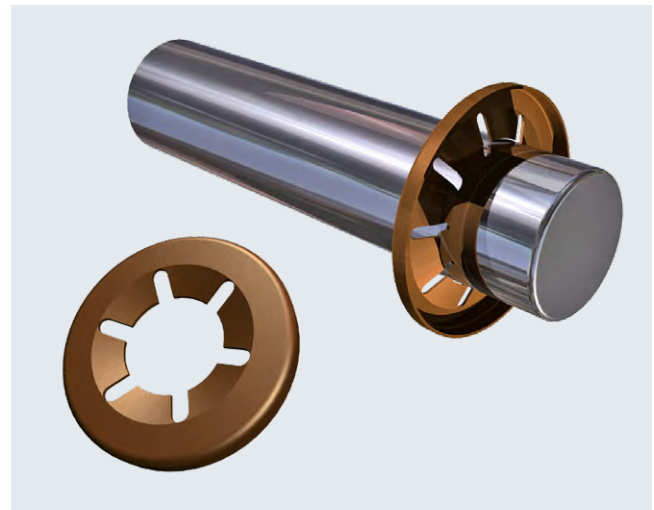


### STARLOCK® standard fasteners

The standard fasteners for round and non-grooved axles and shafts are used in countless industries and sectors.

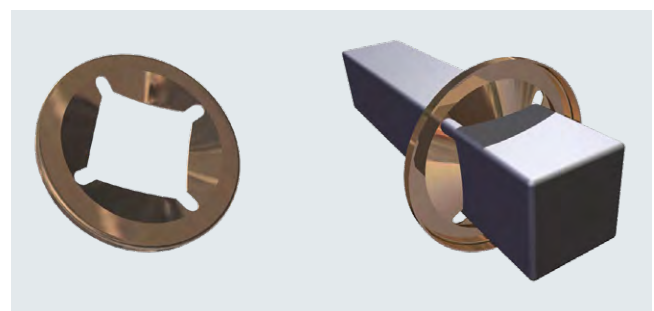
#### Our areas of application:

- Automotive and sub-supplier industries
- Electrical and electronic industries
- A/C and insulation technology
- Medical technology
- Industrial plant construction
- Transportation and conveyor systems
- Household, leisure and toy industries
- Marine
- and many more besides!



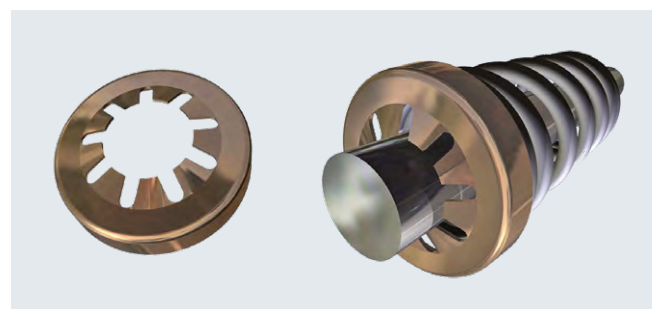
### STARLOCK® for square axles

STARLOCK® push-on fasteners are also available in spring steel and A2 stainless steel for square axles and shafts. A wide variety of sizes can also be fitted with a decorative cap.



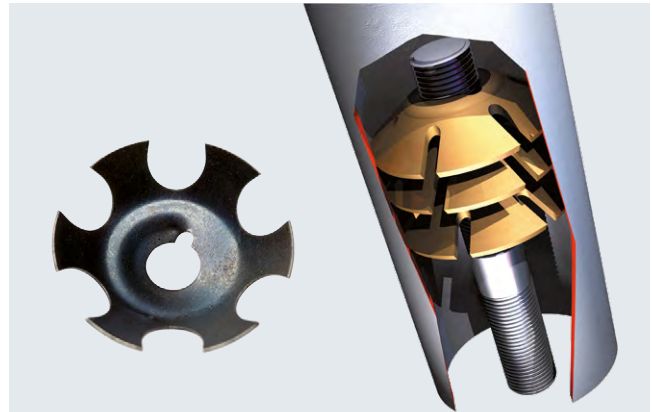
### STARLOCK® Reversed

This is a special Starlock® where its form is reversed. It has multiple uses. The fastener can be installed as a housing for a compression spring or as a centring device.



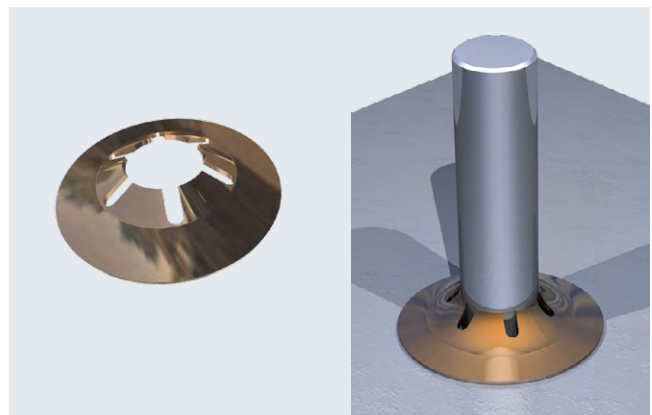
### STARLOCK® Inlock

Inlock® fasteners are an effective means of anchoring a threaded bolt into a tube or pipe, for example. Two or more STARLOCK® fasteners are screwed on to a bolt and the resulting assembly pressed into a tube. The number of inlocks used determines the pull-out resistance of the assembly from the tube or pipe.



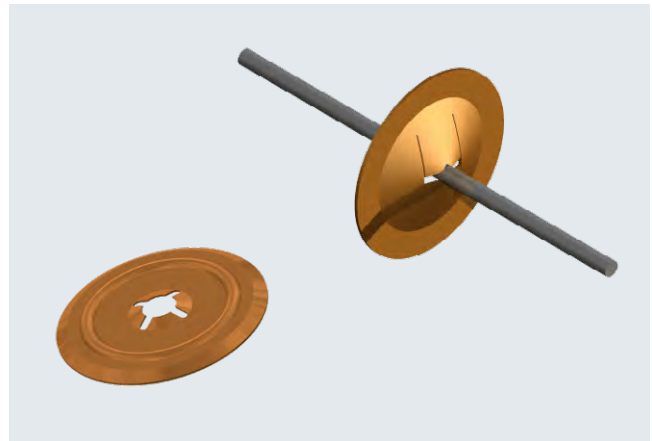
### STARLOCK® Belleville

The Belleville Type STARLOCK® was developed for applications when tension is required. As it is screwed on, the flange on the STARLOCK® is pressed flat to ensure the parts fit snugly together and there is no rattling. High volumes of this STARLOCK® are used in the automotive industry.



### STARLOCK® Flangeless

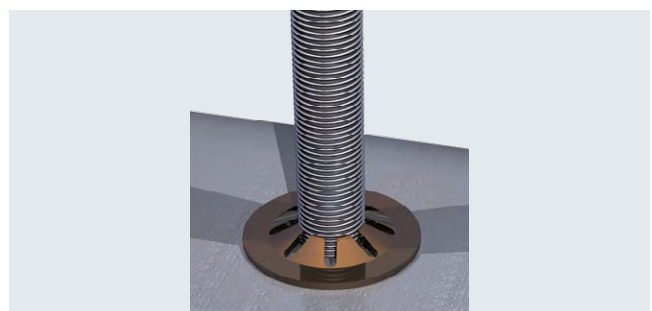
STARLOCK® flangeless fasteners are available in a variety of designs. This push-on fastener has a greater degree of flexibility and can be used, for example, where there is insufficient room for the flange or the flange would be disruptive. Some versions can be fitted without any installation tools whatsoever. Push-on fasteners with an extra-large diameter have been especially designed for facades or to cater to fire safety requirements. The large surface area ensures that no material is damaged.



### Bespoke solutions

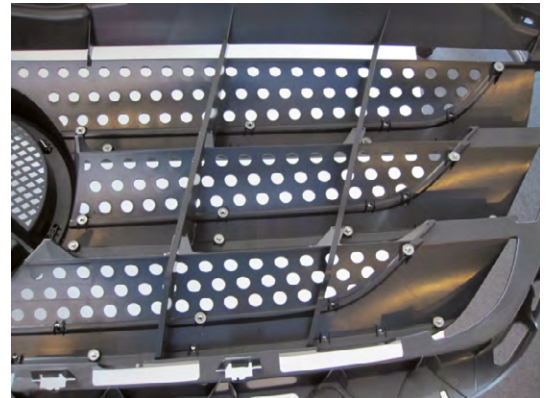
In addition to the above-mentioned versions of our STARLOCK® push-on fasteners, we also work with you to develop the perfect fastener solution for your individual needs.

Please contact us for details!





## Unlimited possibilities



### Automotive

There are numerous possible uses for STARLOCK® push-on fasteners in the automotive industry. Car seat manufacturing, for example, or, as shown here, the production of decorative chrome trim for the Mercedes Sprinter USA.



### Window installation

STARLOCK® push-on fasteners are also a helpful tool for front-wall installation when fitting windows and ensure that everything stays securely in place.

### Medical technology

When producing medical equipment, such as hospital beds, STARLOCK® push-on fasteners are used to fasten slatted bed frames, for example.



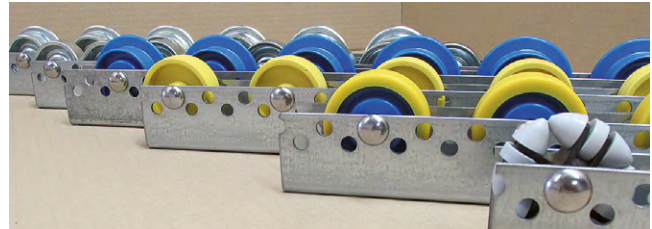
### Transportation

STARLOCK® push-on fasteners are used in a variety of ways to produce transportation aids: for trollies, barrows or, for example the wheels attached to a ping-pong table. Here too, the cap makes for the perfect finish.



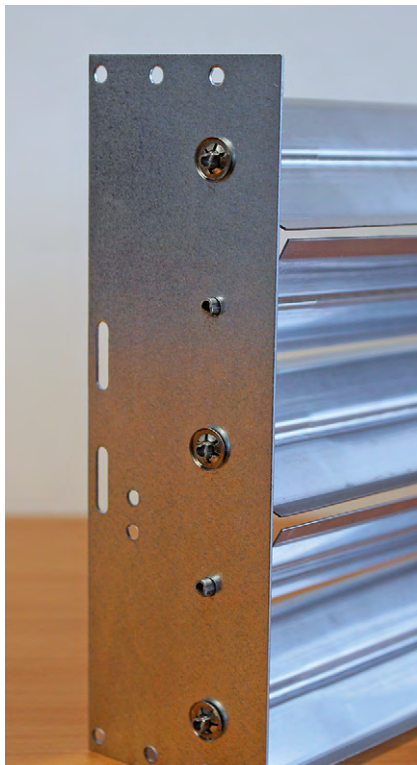
### Heating systems

Another area where STARLOCK® push-on fasteners are a useful aid is in heating systems, as demonstrated by the pressure relief valve above for a boiler.



### Conveyor systems

STARLOCK® push-on fasteners are employed in conveyor systems to quickly and easily secure axles. Secure and visually appealing at the same time: with STARLOCK® push-on fasteners and decorative cap.



### A/C and ventilation applications

The manufacture of air-conditioning and ventilation appliances in particular offers numerous opportunities for fastening and securing components. Capped and uncapped STARLOCK® push-on fasteners go a very long way to simplifying these tasks.



### Toys

Pedals, wheels, steering rods and any number of other parts are fastened using STARLOCK® during production. They provide the necessary protection and offer you a very low-cost manufacturing solution.



# Starlock® push-on fasteners

## Uncapped

for a metric round shaft

## Material

Spring steel 1.1231, bronze, varnished



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.5	9.7	1.3	0.20	4	40	200	HC/8004	399 240 500
2.0	9.7	1.3	0.20	4	70	200	HC/6489	399 202 500
3.0	9.7	1.3	0.20	4	110	200	HC/6490	399 204 500
4.0	11.5	1.3	0.20	5	70	390	HC/6492	399 206 500
5.0	11.5	1.3	0.20	6	120	390	HC/6491	399 208 500
6.0	15.3	1.3	0.25	6	150	790	HC/6493	399 209 500
7.0	15.3	1.3	0.25	6	190	790	HC/6703	399 211 500
8.0	15.3	1.3	0.25	6	220	790	HC/6704	399 212 500
9.0	18.4	1.9	0.30	6	210	980	HC/6708	399 213 500
10.0	18.4	1.9	0.30	6	280	980	HC/6496	399 215 500
11.0	18.4	1.9	0.30	6	410	980	HC/6706	399 216 500
12.0	25.0	2.3	0.40	6	440	2450	HC/6713	399 217 500
13.0	25.0	2.3	0.40	6	340	2450	HC/6829	399 219 500
14.0	28.2	2.3	0.40	6	250	2450	HC/6825	399 220 500
15.0	28.2	2.3	0.40	6	330	2450	HC/6714	399 221 500
16.0	28.2	2.3	0.40	6	550	2450	HC/6826	399 222 500
17.0	28.2	2.3	0.40	6	480	2450	HC/6715	399 223 500
18.0	36.6	3.0	0.40	9	230	3430	HC/6827	399 224 500
19.0	36.6	3.0	0.40	9	160	3780	HC/6828	399 225 500
20.0	36.6	3.0	0.40	9	270	3430	HC/6716	399 226 500
21.0	36.6	3.0	0.40	9	210	3780	HC/6830	399 227 500
22.0	36.6	3.0	0.40	9	540	3430	HC/6719	399 228 500
23.0	38.1	2.9	0.45	9	700	3430	HC/6831	399 229 500
24.0	41.3	3.2	0.50	9	450	3780	HC/6832	399 230 500
25.0	41.3	3.2	0.50	9	560	3780	HC/6717	399 231 500

\*Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Other designs available on request.

# Starlock® push-on fasteners

## Uncapped

for an imperial round shaft

## Material

Spring steel 1.1231, bronze, varnished



Shaft ø d* [mm]	Shaft ø d* [inch]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.6	1/16	9.7	1.3	0.20	4	40	200	HC/6218	399 201 500
2.4	3/32	9.7	1.3	0.20	4	50	200	HC/5883	399 203 500
3.2	1/8	9.7	1.3	0.20	4	120	200	HC/5897	399 205 500
4.8	3/16	11.5	1.3	0.20	6	60	390	HC/5920	399 207 500
6.4	1/4	15.3	1.3	0.25	6	110	790	HC/5873	399 210 500
7.1	9/32	15.3	1.3	0.25	6	200	790	HC/6326	399 243 500
7.9	5/16	15.3	1.3	0.25	6	220	790	HC/5821	399 244 500
8.7	11/32	18.4	1.9	0.30	6	170	980	HC/6332	399 245 500
9.5	3/8	18.4	1.9	0.30	6	210	980	HC/6020	399 214 500
11.1	7/16	25.0	2.3	0.40	6	150	2450	HC/6216	399 246 500
12.7	1/2	25.0	2.3	0.40	6	340	2450	HC/6143	399 218 500
15.9	5/8	25.0	2.3	0.40	6	600	2450	HC/6185	399 247 500
19.1	3/4	36.6	3.0	0.40	9	160	3430	HC/6322	399 248 500
22.2	7/8	38.1	2.9	0.45	9	450	3430	HC/6328	399 249 500
25.4	1	41.3	3.2	0.50	9	710	3780	HC/6329	399 250 500

\*Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Other designs available on request.

# Starlock® push-on fasteners

## Uncapped

for a metric round shaft

## Material

Spring steel 1.1231, mechanical zinc-plated 280h



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.5	9.7	1.3	0.20	4	40	200	DT/8004	399 400 900
2.0	9.7	1.3	0.20	4	70	200	DT/6489	399 402 900
3.0	9.7	1.3	0.20	4	110	200	DT/6490	399 404 900
4.0	11.5	1.3	0.20	5	70	390	DT/6492	399 406 900
5.0	11.5	1.3	0.20	6	120	390	DT/6491	399 408 900
6.0	15.3	1.3	0.25	6	150	790	DT/6493	399 409 900
7.0	15.3	1.3	0.25	6	190	790	DT/6703	399 411 900
8.0	15.3	1.3	0.25	6	220	790	DT/6704	399 412 900
9.0	18.4	1.9	0.30	6	210	980	DT/6708	399 413 900
10.0	18.4	1.9	0.30	6	280	980	DT/6496	399 415 900
11.0	18.4	1.9	0.30	6	410	980	DT/6706	399 416 900
12.0	25.0	2.3	0.40	6	440	2450	DT/6713	399 417 900
13.0	25.0	2.3	0.40	6	340	2450	DT/6829	399 419 900
14.0	28.2	2.3	0.40	6	250	2450	DT/6825	399 420 900
15.0	28.2	2.3	0.40	6	330	2450	DT/6714	399 421 900
16.0	28.2	2.3	0.40	6	550	2450	DT/6826	399 422 900
17.0	28.2	2.3	0.40	6	480	2450	DT/6715	399 423 900
18.0	36.6	3.0	0.40	9	230	3430	DT/6827	399 424 900
19.0	36.6	3.0	0.40	9	160	3780	DT/6828	399 425 900
20.0	36.6	3.0	0.40	9	270	3430	DT/6716	399 426 900
21.0	36.6	3.0	0.40	9	210	3780	DT/6830	399 427 900
22.0	36.6	3.0	0.40	9	540	3430	DT/6719	399 428 900
23.0	38.1	2.9	0.45	9	700	3430	DT/6831	399 429 900
24.0	38.1	3.2	0.50	9	450	3780	DT/7035	399 430 900
25.0	41.3	3.2	0.50	9	560	3780	DT/6717	399 431 900

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Other designs available on request.

# Starlock® push-on fasteners

## Uncapped

for an imperial round shaft

## Material

Spring steel 1.1231, mechanical zinc-plated 280h



Shaft ø d* [mm]	Shaft ø d* [inch]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.6	1/16	9.7	1.3	0.20	4	40	200	DT/6218	399 401 900
2.4	3/32	9.7	1.3	0.20	4	50	200	DT/5883	399 403 900
3.2	1/8	9.7	1.3	0.20	4	120	200	DT/5897	399 405 900
4.8	3/16	11.5	1.3	0.20	6	60	390	DT/5920	399 407 900
6.4	1/4	15.3	1.3	0.25	6	110	790	DT/5873	399 410 900
7.1	9/32	15.3	1.3	0.25	6	200	790	DT/6326	399 443 900
7.9	5/16	15.3	1.3	0.25	6	220	790	DT/5821	399 444 900
8.7	11/32	18.4	1.9	0.30	6	170	980	DT/6332	399 445 900
9.5	3/8	18.4	1.9	0.30	6	210	980	DT/6020	399 414 900
11.1	7/16	25.0	2.3	0.40	6	150	2450	DT/6216	399 446 900
12.7	1/2	25.0	2.3	0.40	6	340	2450	DT/6143	399 418 900
15.9	5/8	25.0	2.3	0.40	6	600	2450	DT/6185	399 622 900
19.1	3/4	36.6	3.0	0.40	9	160	3430	DT/6322	399 447 900
22.2	7/8	38.1	2.9	0.45	9	450	3430	DT/6328	399 448 900
25.4	1	41.3	3.2	0.50	9	710	3780	DT/6329	399 449 900

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Other designs available on request.

# Starlock® push-on fasteners

## Uncapped

for a metric round shaft

## Material

Stainless steel 1.4310



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.5	9.7	1.3	0.20	4	40	200	S/8004	399 800 000
2.0	9.7	1.3	0.20	4	70	200	S/6489	399 802 000
3.0	9.7	1.3	0.20	4	110	200	S/6490	399 804 000
4.0	11.5	1.3	0.20	5	70	290	S/6492	399 806 000
5.0	11.5	1.3	0.20	6	120	290	S/6491	399 808 000
6.0	15.3	1.3	0.25	6	150	590	S/6493	399 809 000
7.0	15.3	1.3	0.25	6	190	590	S/6703	399 811 000
8.0	15.3	1.3	0.25	6	220	590	S/6704	399 812 000
9.0	18.4	1.9	0.30	6	200	780	S/6708	399 813 000
10.0	18.4	1.9	0.30	6	200	780	S/6496	399 815 000
11.0	18.4	1.9	0.30	6	200	780	S/6706	399 816 000
12.0	25.1	2.3	0.40	6	340	1960	S/6713	399 817 000
13.0	25.1	2.3	0.40	6	340	1960	S/6829	399 819 000
14.0	28.2	2.3	0.40	6	250	1960	S/6825	399 820 000
15.0	28.2	2.3	0.40	6	250	1960	S/6714	399 821 000
16.0	28.2	2.3	0.40	6	250	1960	S/6826	399 822 000
17.0	28.2	2.3	0.40	6	340	1470	S/6715	399 823 000
18.0	36.6	3.0	0.40	9	230	1960	S/6827	399 824 000
19.0	36.6	3.0	0.40	9	150	2450	S/6828	399 825 000
20.0	36.6	3.0	0.40	9	270	2450	S/6716	399 826 000
21.0	36.6	3.0	0.40	9	390	2940	S/6830	399 827 000
22.0	36.6	3.0	0.40	9	450	1960	S/6719	399 828 000
23.0	38.1	2.9	0.45	9	- <sup>2</sup>	- <sup>2</sup>	S/6831	399 829 000
24.0	41.3	3.2	0.50	9	- <sup>2</sup>	- <sup>2</sup>	S/6832	399 830 000
25.0	41.5	3.2	0.50	9	340	2450	S/6717	399 831 000

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

<sup>2</sup> Push-on and pull-off forces available on request.

Other designs available on request.



# Starlock® push-on fasteners

## Uncapped

for an imperial round shaft

## Material

Stainless steel 1.4310



Shaft ø d* [mm]	Shaft ø d* [inch]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.6	1/16	9.7	1.3	0.20	4	60	200	S/6218	399 801 000
2.4	3/32	9.7	1.3	0.20	4	50	200	S/5883	399 803 000
3.2	1/8	9.7	1.3	0.20	4	90	200	S/5897	399 805 000
4.8	3/16	11.5	1.3	0.20	6	60	390	S/5920	399 807 000
6.4	1/4	15.3	1.3	0.25	6	220	590	S/5873	399 810 000
7.1	9/32	15.3	1.3	0.25	6	220	590	S/6326	399 843 000
7.9	5/16	15.3	1.3	0.25	6	220	590	S/5821	399 844 000
8.7	11/32	18.4	1.9	0.30	6	170	980	S/6332	399 845 000
9.5	3/8	18.4	1.9	0.30	6	170	780	S/6020	399 814 000
11.1	7/16	25.1	2.3	0.40	6	- <sup>2</sup>	- <sup>2</sup>	S/6216	399 846 000
12.7	1/2	25.1	2.3	0.40	6	340	1960	S/6143	399 818 000
15.9	5/8	25.1	2.3	0.40	6	- <sup>2</sup>	- <sup>2</sup>	S/6185	399 847 000
19.1	3/4	36.6	3.0	0.40	9	160	2450	S/6322	399 848 000
22.2	7/8	38.1	2.9	0.45	9	- <sup>2</sup>	- <sup>2</sup>	S/6328	399 849 000
25.4	1	41.3	3.2	0.50	9	- <sup>2</sup>	- <sup>2</sup>	S/6329	399 850 000

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

<sup>2</sup> Push-on and pull-off forces available on request.

Other designs available on request.

# Starlock® push-on fasteners

with stainless steel cap (1.4016)

for a metric round shaft

## Material

Spring steel 1.1231, bronze, varnished



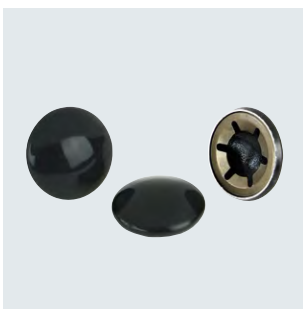
Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.5	10.6	3.0	2.5	4	40	200	HC/7204/01S	399 350 500
2.0	10.6	3.0	2.5	4	70	200	HC/6662/01S	399 352 500
3.0	10.6	3.0	2.5	4	110	200	HC/6663/01S	399 354 500
4.0	12.3	3.8	3.0	5	70	390	HC/6665/02S	399 356 500
5.0	12.3	3.8	3.0	6	120	390	HC/6664/02S	399 358 500
6.0	16.1	5.1	4.0	6	150	790	HC/6666/03S	399 359 500
7.0	16.1	5.1	4.0	6	190	790	HC/6670/03S	399 361 500
8.0	16.1	5.1	4.0	6	220	790	HC/6671/03S	399 362 500
9.0	19.7	5.8	4.5	6	210	980	HC/6674/04S	399 363 500
10.0	19.7	5.8	4.5	6	280	980	HC/6668/04S	399 365 500
11.0	19.7	5.8	4.5	6	410	980	HC/6673/04S	399 366 500
12.0	26.0	7.5	6.0	6	440	2450	HC/6675/05S	399 367 500
13.0	26.0	7.5	6.0	6	340	2450	HC/6885/05S	399 369 500
14.0	29.4	9.0	7.0	6	250	2450	HC/6881/06S	399 370 500
15.0	29.4	9.0	7.0	6	330	2450	HC/6676/06S	399 371 500
16.0	29.4	9.0	7.0	6	550	2450	HC/6882/06S	399 372 500
17.0	29.4	9.0	7.0	6	480	2450	HC/6677/06S	399 373 500
18.0	38.2	11.7	8.7	9	230	3430	HC/6883/07S	399 374 500
19.0	38.2	11.7	8.7	9	160	3780	HC/6884/07S	399 375 500
20.0	38.2	11.7	8.7	9	270	3430	HC/6678/07S	399 376 500
21.0	38.2	11.7	8.7	9	210	3780	HC/6886/07S	399 377 500
22.0	38.2	11.7	8.7	9	540	3430	HC/6889/07S	399 378 500
23.0	39.8	13.0	9.5	9	700	3430	HC/6887/08S	399 379 500
24.0	43.0	12.5	9.5	9	450	3780	HC/6888/09S	399 380 500
25.0	43.0	12.5	9.5	9	560	3780	HC/6679/09S	399 381 500

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Material thickness of Starlock® push-on fastener ferrules same as uncapped version

Other designs available on request.



# Starlock® push-on fasteners

with stainless steel cap (1.4016)

for an imperial round shaft

## Material

Spring steel 1.1231, bronze, varnished



Shaft ø d* [mm]	Shaft ø d* [inch]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.6	1/16	10.6	3.0	2.5	4	40	200	HC/6232/01S	399 351 500
2.4	3/32	10.6	3.0	2.5	4	50	200	HC/6221/01S	399 353 500
3.2	1/8	10.6	3.0	2.5	4	120	200	HC/6222/01S	399 355 500
3.9	5/32	12.3	3.8	3.0	5	70	390	HC/6223/02S	399 339 500
4.8	3/16	12.3	3.8	3.0	6	60	390	HC/6224/02S	399 357 500
5.6	7/32	12.3	3.8	3.0	6	130	390	HC/6235/02S	399 340 500
6.4	1/4	16.1	5.1	4.0	6	110	790	HC/6225/03S	399 360 500
7.1	9/32	16.1	5.1	4.0	6	200	790	HC/6236/03S	399 341 500
7.9	5/16	16.1	5.1	4.0	6	220	790	HC/6226/03S	399 342 500
8.7	11/32	19.7	5.8	4.5	6	170	980	HC/6238/04S	399 343 500
9.5	3/8	19.7	5.8	4.5	6	210	980	HC/6227/04S	399 364 500
10.3	13/32	19.7	5.8	4.5	6	170	980	HC/6239/04S	399 617 500
11.1	7/16	26.0	7.5	6.0	6	150	2450	HC/6228/05S	399 344 500
12.7	1/2	26.0	7.5	6.0	6	340	2450	HC/6229/05S	399 368 500
13.5	17/32	26.0	7.5	6.0	6	590	2450	HC/6237/05S	399 345 500
15.9	5/8	26.0	7.5	6.0	6	600	2450	HC/6231/05S	399 346 500
19.1	3/4	38.2	11.7	8.7	9	160	3430	HC/6234/07S	399 347 500
22.2	7/8	39.8	13.0	9.5	9	450	3430	HC/6335/08S	399 348 500
25.4	1	43.0	12.5	9.5	9	710	3780	HC/6334/09S	399 349 500

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Material thickness of Starlock® push-on fastener ferrules same as uncapped version

Other designs available on request.

# Starlock® push-on fasteners

with stainless steel cap (1.4016)

for a metric round shaft

## Material

Spring steel 1.1231, mechanical zinc-plated 280h



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.5	10.6	3.0	2.5	4	40	200	DT/7204/01S	399 450 900
2.0	10.6	3.0	2.5	4	70	200	DT/6662/01S	399 452 900
3.0	10.6	3.0	2.5	4	110	200	DT/6663/01S	399 454 900
4.0	12.3	3.8	3.0	5	70	390	DT/6665/02S	399 456 900
5.0	12.3	3.8	3.0	6	120	390	DT/6664/02S	399 458 900
6.0	16.1	5.1	4.0	6	150	790	DT/6666/03S	399 459 900
7.0	16.1	5.1	4.0	6	190	790	DT/6670/03S	399 461 900
8.0	16.1	5.1	4.0	6	220	790	DT/6671/03S	399 462 900
9.0	19.7	5.8	4.5	6	210	980	DT/6674/04S	399 463 900
10.0	19.7	5.8	4.5	6	280	980	DT/6668/04S	399 465 900
11.0	19.7	5.8	4.5	6	410	980	DT/6673/04S	399 466 900
12.0	26.0	7.5	6.0	6	440	2450	DT/6675/05S	399 467 900
13.0	26.0	7.5	6.0	6	340	2450	DT/6885/05S	399 469 900
14.0	29.4	9.0	7.0	6	250	2450	DT/6881/06S	399 470 900
15.0	29.4	9.0	7.0	6	330	2450	DT/6676/06S	399 471 900
16.0	29.4	9.0	7.0	6	550	2450	DT/6882/06S	399 472 900
17.0	29.4	9.0	7.0	6	480	2450	DT/6677/06S	399 473 900
18.0	38.2	11.7	8.7	9	230	3430	DT/6883/07S	399 474 900
19.0	38.2	11.7	8.7	9	160	3780	DT/6884/07S	399 475 900
20.0	38.2	11.7	8.7	9	270	3430	DT/6678/07S	399 476 900
21.0	38.2	11.7	8.7	9	210	3780	DT/6886/07S	399 477 900
22.0	38.2	11.7	8.7	9	540	3430	DT/6889/07S	399 478 900
23.0	39.8	13.0	9.5	9	700	3430	DT/6887/08S	399 479 900
24.0	43.0	12.5	9.5	9	450	3780	DT/6888/09S	399 480 900
25.0	43.0	12.5	9.5	9	560	3780	DT/6679/09S	399 481 900

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Material thickness of Starlock® push-on fastener ferrules same as uncapped version

Other designs available on request.

# Starlock® push-on fasteners

with stainless steel cap (1.4016)

for an imperial round shaft

## Material

Spring steel 1.1231, mechanical zinc-plated 280h



Shaft ø d* [mm]	Shaft ø d* [inch]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.6	1/16	10.6	3.0	2.5	4	40	200	DT/6232/01S	399 451 900
2.4	3/32	10.6	3.0	2.5	4	50	200	DT/6221/01S	399 453 900
3.2	1/8	10.6	3.0	2.5	4	120	200	DT/6222/01S	399 455 900
3.9	5/32	12.3	3.8	3.0	5	70	390	DT/6223/02S	399 482 900
4.8	3/16	12.3	3.8	3.0	6	60	390	DT/6224/02S	399 457 900
5.6	7/32	12.3	3.8	3.0	6	130	390	DT/6235/02S	399 483 900
6.4	1/4	16.1	5.1	4.0	6	110	790	DT/6225/03S	399 460 900
7.1	9/32	16.1	5.1	4.0	6	200	790	DT/6236/03S	399 484 900
7.9	5/16	16.1	5.1	4.0	6	220	790	DT/6226/03S	399 485 900
8.7	11/32	19.7	5.8	4.5	6	170	980	DT/6238/04S	399 486 900
9.5	3/8	19.7	5.8	4.5	6	210	980	DT/6227/04S	399 464 900
10.3	13/32	19.7	5.8	4.5	6	170	980	DT/6239/04S	399 487 900
11.1	7/16	26.0	7.5	6.0	6	150	2450	DT/6228/05S	399 668 900
12.7	1/2	26.0	7.5	6.0	6	340	2450	DT/6229/05S	399 468 900
13.5	17/32	26.0	7.5	6.0	6	590	2450	DT/6237/05S	399 488 900
15.9	5/8	26.0	7.5	6.0	6	600	2450	DT/6231/05S	399 489 900
19.1	3/4	38.2	11.7	8.7	9	160	3430	DT/6234/07S	399 490 900
22.2	7/8	39.8	13.0	9.5	9	450	3430	DT/6335/08S	399 491 900
25.4	1	43.0	12.5	9.5	9	710	3780	DT/6334/09S	399 492 900

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Material thickness of Starlock® push-on fastener ferrules same as uncapped version

Other designs available on request.



# Starlock® push-on fasteners

with stainless steel cap (1.4016)

for a metric round shaft

## Material

Stainless steel 1.4310



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.5	10.6	3.0	2.5	4	40	200	S/7204/01S	399 950 000
2.0	10.6	3.0	2.5	4	70	200	S/6662/01S	399 952 000
3.0	10.6	3.0	2.5	4	110	200	S/6663/01S	399 954 000
4.0	12.3	3.8	3.0	5	70	290	S/6665/02S	399 956 000
5.0	12.3	3.8	3.0	6	120	290	S/6664/02S	399 958 000
6.0	16.1	5.1	4.0	6	150	590	S/6666/03S	399 959 000
7.0	16.1	5.1	4.0	6	190	590	S/6670/03S	399 961 000
8.0	16.1	5.1	4.0	6	220	590	S/6671/03S	399 962 000
9.0	19.7	5.8	4.5	6	200	780	S/6674/04S	399 963 000
10.0	19.7	5.8	4.5	6	200	780	S/6668/04S	399 965 000
11.0	19.7	5.8	4.5	6	200	780	S/6673/04S	399 966 000
12.0	26.0	7.5	6.0	6	340	1960	S/6675/05S	399 967 000
13.0	26.0	7.5	6.0	6	340	1960	S/6885/05S	399 969 000
14.0	29.4	9.0	7.0	6	250	1960	S/6881/06S	399 970 000
15.0	29.4	9.0	7.0	6	250	1960	S/6676/06S	399 971 000
16.0	29.4	9.0	7.0	6	250	1960	S/6882/06S	399 972 000
17.0	29.4	9.0	7.0	6	340	1470	S/6677/06S	399 973 000
18.0	38.2	11.7	8.7	9	230	1960	S/6883/07S	399 974 000
19.0	38.2	11.7	8.7	9	150	2450	S/6884/07S	399 975 000
20.0	38.2	11.7	8.7	9	270	2450	S/6678/07S	399 976 000
21.0	38.2	11.7	8.7	9	390	2940	S/6886/07S	399 977 000
22.0	38.2	11.7	8.7	9	450	1960	S/6889/07S	399 978 000
23.0	39.8	13.0	9.5	9	- <sup>2</sup>	- <sup>2</sup>	S/6887/08S	399 979 000
24.0	43.0	12.5	9.5	9	- <sup>2</sup>	- <sup>2</sup>	S/6888/09S	399 980 000
25.0	43.0	12.5	9.5	9	340	2450	S/6679/09S	399 981 000

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.  
Material thickness of Starlock® push-on fastener ferrules same as uncapped version

Other designs available on request.

# Starlock® push-on fasteners

with stainless steel cap (1.4016)  
for an imperial round shaft

## Material

Stainless steel 1.4310



Shaft ø d* [mm]	Shaft ø d* [inch]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.6	1/16	10.6	3.0	2.5	4	60	200	S/6232/01S	399 951 000
2.4	3/32	10.6	3.0	2.5	4	50	200	S/6221/01S	399 953 000
3.2	1/8	10.6	3.0	2.5	4	90	200	S/6222/01S	399 955 000
3.9	5/32	12.3	3.8	3.0	5	70	390	S/6223/02S	399 982 000
4.8	3/16	12.3	3.8	3.0	6	60	390	S/6224/02S	399 957 000
5.6	7/32	12.3	3.8	3.0	6	130	390	S/6235/02S	399 983 000
6.4	1/4	16.1	5.1	4.0	6	220	590	S/6225/03S	399 960 000
7.1	9/32	16.1	5.1	4.0	6	220	590	S/6236/03S	399 984 000
7.9	5/16	16.1	5.1	4.0	6	220	590	S/6226/03S	399 985 000
8.7	11/32	19.7	5.8	4.5	6	170	980	S/6238/04S	399 986 000
9.5	3/8	19.7	5.8	4.5	6	170	780	S/6227/04S	399 964 000
10.3	13/32	19.7	5.8	4.5	6	170	980	S/6239/04S	399 987 000
11.1	7/16	26.0	7.5	6.0	6	- <sup>2</sup>	- <sup>2</sup>	S/6228/05S	399 988 000
12.7	1/2	26.0	7.5	6.0	6	340	1960	S/6229/05S	399 968 000
13.5	17/32	26.0	7.5	6.0	6	590	2450	S/6237/05S	399 989 000

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.  
Material thickness of Starlock® push-on fastener ferrules same as uncapped version

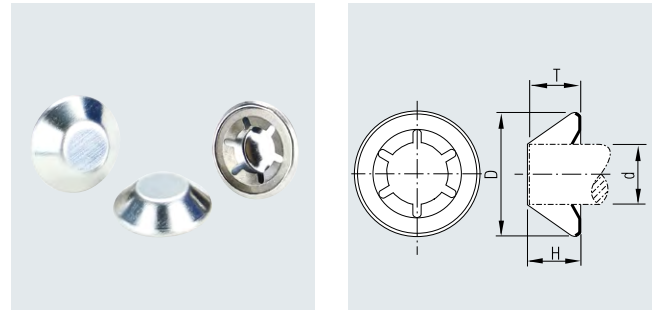
Other designs available on request.

# Starlock® push-on fasteners

with stainless steel (1.4016) axle cap  
for a metric round shaft

## Material

Spring steel 1.1231, bronze, varnished



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
1.5	10.6	4.0	3.4	4	40	200	HC/7204/31S	399 678 500 <sup>2</sup>
2.0	10.6	4.0	3.4	4	70	200	HC/6662/31S	399 679 500 <sup>2</sup>
3.0	10.6	4.0	3.4	4	110	200	HC/6663/31S	399 650 500 <sup>2</sup>
4.0	12.4	4.5	4.0	5	70	390	HC/6665/32S	399 677 500 <sup>2</sup>
5.0	12.4	4.5	4.0	6	120	390	HC/6664/32S	399 688 500 <sup>2</sup>
6.0	16.3	5.0	4.5	6	150	790	HC/6666/33S	399 689 500 <sup>2</sup>
7.0	16.3	5.0	4.5	6	190	790	HC/6670/33S	399 690 500 <sup>2</sup>
8.0	16.3	5.0	4.5	6	220	790	HC/6671/33S	399 692 500 <sup>2</sup>
9.0	19.8	6.0	5.5	6	210	980	HC/6674/34S	399 693 500 <sup>2</sup>
10.0	19.8	6.0	5.5	6	280	980	HC/6668/34S	399 695 500 <sup>2</sup>
11.0	19.8	6.0	5.5	6	410	980	HC/6673/34S	399 696 500 <sup>2</sup>
12.0	26.0	7.2	6.8	6	440	2450	HC/6675/35K	399 697 500 <sup>2</sup>
13.0	26.0	7.2	6.8	6	340	2450	HC/6885/35K	399 698 500 <sup>2</sup>

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

<sup>2</sup> Starlock® push-on fasteners with stainless steel axle cap are also available as mechanical zinc-plated & stainless steel ferrule versions.

<sup>2</sup> Starlock® push-on fasteners with stainless steel deep axle caps are also available in imperial sizes.

Material thickness of Starlock® push-on fastener ferrules same as uncapped version.

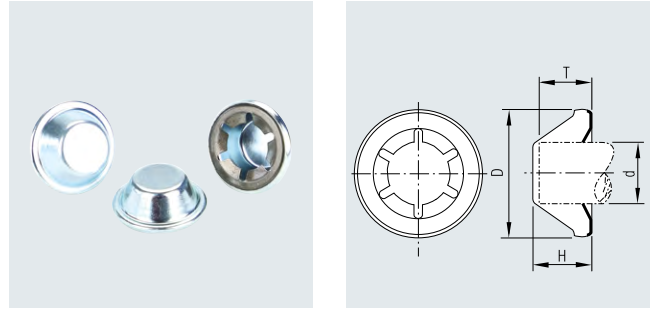
Other designs available on request.

# Starlock® push-on fasteners

with zinc-plated steel deep axle cap  
for a metric round shaft

## Material

Spring steel 1.1231, bronze, varnished



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
3.0	12.3	5.7	5.3	4	110	200	HC/8300/42A	399 637 500 <sup>2</sup>
4.0	12.3	5.7	5.3	5	70	390	HC/6665/42A	399 636 500 <sup>2</sup>
5.0	12.3	5.7	5.3	6	120	390	HC/6664/42A	399 638 500 <sup>2</sup>
6.0	16.1	7.2	6.7	6	150	790	HC/6666/43A	399 639 500 <sup>2</sup>
7.0	16.1	7.2	6.7	6	190	790	HC/6670/43A	399 641 500 <sup>2</sup>
8.0	16.1	7.2	6.7	6	220	790	HC/6671/43A	399 642 500 <sup>2</sup>
9.0	19.7	8.1	7.7	6	210	980	HC/6674/44A	399 643 500 <sup>2</sup>
10.0	19.7	8.1	7.7	6	280	980	HC/6668/44A	399 645 500 <sup>2</sup>
11.0	19.7	8.1	7.7	6	410	980	HC/6673/44A	399 646 500 <sup>2</sup>

\* Tolerance: Ø up to 16.0mm: ±0.05mm, Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

<sup>2</sup> Starlock® push-on fasteners with stainless steel axle cap are also available as mechanical zinc-plated & stainless steel ferrule versions.

<sup>2</sup> Starlock® push-on fasteners with stainless steel deep axle caps are also available in imperial sizes.

Material thickness of Starlock® push-on fastener ferrules same as uncapped version.

Other designs available on request.

# Starlock® push-on fasteners

**reinforced, uncapped**  
for a metric round shaft

## Material

Spring steel 1.1231, bronze, varnished



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
4.0	11.5	1.27	0.4	5	250	1230	HC/8059	399 106 500 <sup>2</sup>
5.0	11.5	1.27	0.4	6	250	1230	HC/8060	399 108 500 <sup>2</sup>
6.0	15.3	1.27	0.4	6	390	1770	HC/8061	399 109 500 <sup>2</sup>
7.0	15.3	1.27	0.4	6	390	1770	HC/8149	399 110 500 <sup>2</sup>
8.0	15.3	1.27	0.4	6	390	1770	HC/8062	399 112 500 <sup>2</sup>

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

<sup>2</sup> Not a stock item. These sizes are made to customer order.

Reinforced Starlock® push-on fasteners are also available in OFL mechanical zinc-plated or stainless steel

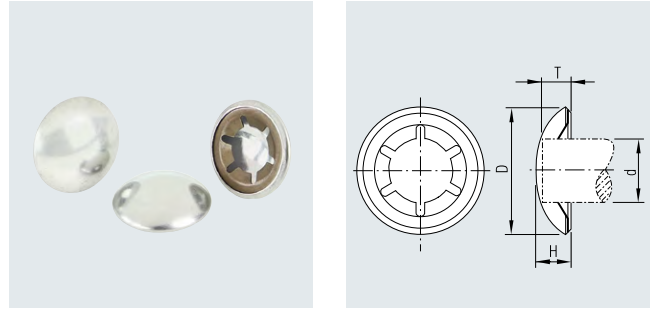
Other designs available on request.

# Starlock® push-on fasteners

reinforced, with stainless steel (1.4016) cap  
for a metric round shaft

## Material

Spring steel 1.1231, bronze, varnished



Shaft ø d* [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.2 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
4.0	12.3	3.8	3.0	5	250	1230	HC/8045/02S	399 156 500 <sup>2</sup>
5.0	12.3	3.8	3.0	6	250	1230	HC/8074/02S	399 158 500 <sup>2</sup>
6.0	16.1	5.1	4.0	6	390	1770	HC/8075/03S	399 159 500 <sup>2</sup>
8.0	16.1	5.1	4.0	6	390	1770	HC/8076/03S	399 162 500 <sup>2</sup>

\* Tolerance: Ø up to 16.0mm: ±0.05mm; Ø over 16.0mm: ±0.1mm

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

<sup>2</sup> Not a stock item. These sizes are made to customer order.

Reinforced Starlock® push-on fasteners are also available in OFL mechanical zinc-plated or stainless steel

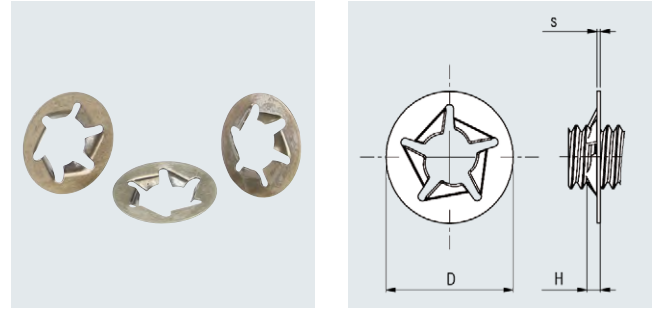
Other designs available on request.

# Starlock® push-on fasteners

## Bolt retainers

### Material

Spring steel 1.1231, bronze, varnished



Shaft d [mm]	Outside ø D ± 0.2 [mm]	Height H ± 0.25 [mm]	Material thickness s [mm]	Number of legs Qty.	Push-on force <sup>1</sup> [N]	Push-off force <sup>1</sup> [N]	Description	Article No.
M 4	10.0	1.70	0.3	4	70	450	HC/8237	399 660 500
M 5	10.0	1.70	0.3	4	70	450	HC/8238	399 661 500
M 6	12.5	1.90	0.3	5	80	700	HC/8239	399 662 500
M 8	16.0	2.00	0.4	5	100	700	HC/8240	399 663 500
M 10	19.8	2.50	0.4	6	90	1200	HC/8241	399 665 500
M 12	21.4	2.60	0.4	6	60	1450	HC/8242	399 667 500

Starlock® bolt retainers are also available in mechanical zinc-plated steel or stainless steel.

<sup>1</sup> The push-on and pull-off forces are based on in-house testing using 1.1151/1.0715 h11 bare steel shafts.

Other designs available on request.



# Starlock® push-on fasteners

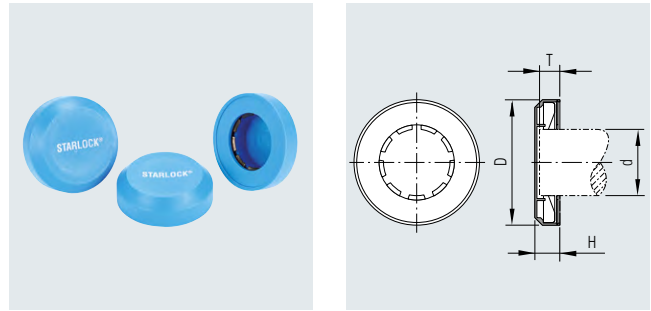
with coloured plastic cap

## Material

Spring steel 1.1231, bronze varnished

Spring steel 1.1231, mechanical zinc-plated 280h

Stainless steel 1.4310



Shaft ø d [mm]	Outside ø D ± 0.3 [mm]	Height H ± 0.3 [mm]	Shaft penetration T max [mm]	Number of legs Qty.	Pull-off force <sup>1</sup> [N]	Min. order quantity <sup>4</sup> [Qty.]	Article No. <sup>3</sup> Spring steel 1.1231, Bronze varnished	Spring steel 1.1231, mech. zinc-plated	Stainless steel 1.4310
6	19.0	6.5	5.5	6	790	10000			
6.4	19.0	6.5	5.5	6	790	10000			
7	19.0	6.5	5.5	6	790	10000			
8	19.0	6.5	5.5	6	790	10000			
9	23.0	7.5	6.5	6	980	10000			
9.5	23.0	7.5	6.5	6	980	10000			
10	23.0	7.5	6.5	6	980	10000			
11	23.0	7.5	6.5	6	980	10000			
12	30.0	9.0	8.0	6	2450	8000			
12.7	30.0	9.0	8.0	6	2450	8000			
13	30.0	9.0	8.0	6	2450	8000			
14	33.0	11.0	10.0	6	2450	6000			
15	33.0	11.0	10.0	6	2450	6000			
16	33.0	11.0	10.0	6	2450	6000			
17	33.0	11.0	10.0	6	2450	6000			
18	41.0	12.0	11.0	9	3430	5000			
19	41.0	12.0	11.0	9	3780	5000			
20	41.0	12.0	11.0	9	3430	5000			
21	41.0	12.0	11.0	9	3780	5000			
22	41.0	12.0	11.0	9	3430	5000			
24.0 <sup>2</sup>	46.0	14.0	13.0	9	3780	4000			
25.0 <sup>2</sup>	46.0	14.0	13.0	9	3780	4000			

<sup>1</sup> The pull-off forces shown apply to ferrules made of steel and are based on in-house testing using S235 h11 bare steel shafts

<sup>2</sup> Not available in stainless steel

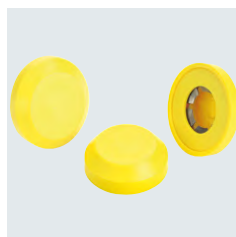
<sup>3</sup> For all inquiries/orders, please state the following:

1. Axle/shaft diameter
2. Type of STARLOCK push-on fastener (ferrule) spring steel varnished, mech. zinc-plated or stainless steel
3. Colour of requested plastic cap as per RAL or colour sample

<sup>4</sup> Minimum order quantities apply for standard colours RAL 9011 and RAL 9010 (black and white). For special colours, the minimum order quantity is always 10000 items

Material thicknesses of STARLOCK ferrules same as uncapped version.

STARLOCK push-on fasteners with plastic caps made of PA 6 based on RAL colours or colour sample are manufactured to customer specification. Delivery time approx. 3 - 4 weeks. Bespoke versions, e.g. with company logo, emblems or lettering (tampon print) available on request.



## Assembly tool and magnetic ferrules

### Assembly tool for Starlock® push-on fasteners

Description: 6110

Article No. 390 303 000



### Magnetic ferrules for uncapped STARLOCK® push-on fasteners

Shaft ø		Outside ø		Description	Article No.
[mm]	[inch]	[mm]	[inch]		
1.5 - 3.2	1/16 - 1/8	9.7	0.380	6111	390 310
4.0 - 5.0	3/16	11.5	0.450	6112	390 311
6.0 - 8.0	1/4 - 5/16	15.3	0.600	6113	390 312
9.0 - 11.0	11/32 - 3/8	18.4	0.725	6114	390 313
12.0 - 13.0	7/16 - 5/8	25.0	0.983	6115	390 317
14.0 - 17.0	-	28.2	-	6400	390 318
18.0 - 23.0	3/4 - 7/8	36.5	1.437	6118	390 315
24.0 - 25.0	1	41.3	1.625	6388	390 316



### Magnetic ferrules for capped STARLOCK® push-on fasteners

Shaft ø		Outside ø		Type	Description	Article No.
[mm]	[inch]	[mm]	[inch]	Cap		
1.5 - 3.2	1/16 - 1/8	10.7	0.420	01S	6381	390 320
4.0 - 5.0	5/32 - 7/32	12.3	0.485	02S	6382	390 321
6.0 - 8.0	1/4 - 5/16	16.3	0.640	03S	6383	390 322
9.0 - 11.0	11/32 - 13/32	19.8	0.780	04S	6384	390 323
12.0 - 13.0	7/16 - 5/8	26.0	1.025	05S	6385	390 327
14.0 - 17.0	-	29.4	-	06S	6893	390 328
18.0 - 22.0	3/4	38.2	1.505	07S	6389	390 325
23.0	7/8	39.8	1.565	08S	6897	390 329
24.0 - 25.0	1	43.0	1.695	09S	6398	390 326



### Magnetic ferrules for STARLOCK® push-on fasteners with stainless steel axle cap

Shaft ø		Outside ø		Type	Description	Article No.
[mm]	[inch]	[mm]	[inch]	Cap		
1.5 - 3.2	1/16 - 1/8	10.7	0.420	31S	7011	
4.0 - 5.0	5/32 - 7/32	12.5	0.490	32S	7012	390 371
6.0 - 8.0	1/4 - 5/16	16.3	0.640	33S	7013	390 372
9.0 - 11.0	11/32 - 13/32	19.8	0.785	34S	7014	390373
12.0 - 13.0	7/16 - 5/8	26.1	1.028	35S	7015	



### Magnetic ferrules for STARLOCK® push-on fasteners with steel deep axle cap

Shaft ø		Outside ø		Type	Description	Article No.
[mm]	[inch]	[mm]	[inch]	Cap		
3.0 - 5.0	5/32 - 7/32	12.3	0.485	42A	7044	
6.0 - 8.0	1/4 - 5/16	16.1	0.635	43A	7045	
9.0 - 11.0	11/32 - 13/32	19.7	0.777	44A	7046	







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Titgemeyer Group is a leading fastening technology and transport technology group of companies with 15 sites across Europe. Steeped in tradition, the company develops, manufactures and sells more than 30,000 fastening elements, tools and vehicle components – in series and to customer specification.

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