

INDUSTRIAL WASHING



KNIPPER™ Product Code DUA 36 Stainless steel

S-Spring Snap Fastening System Product Code DUS 4|6 Stainless steel

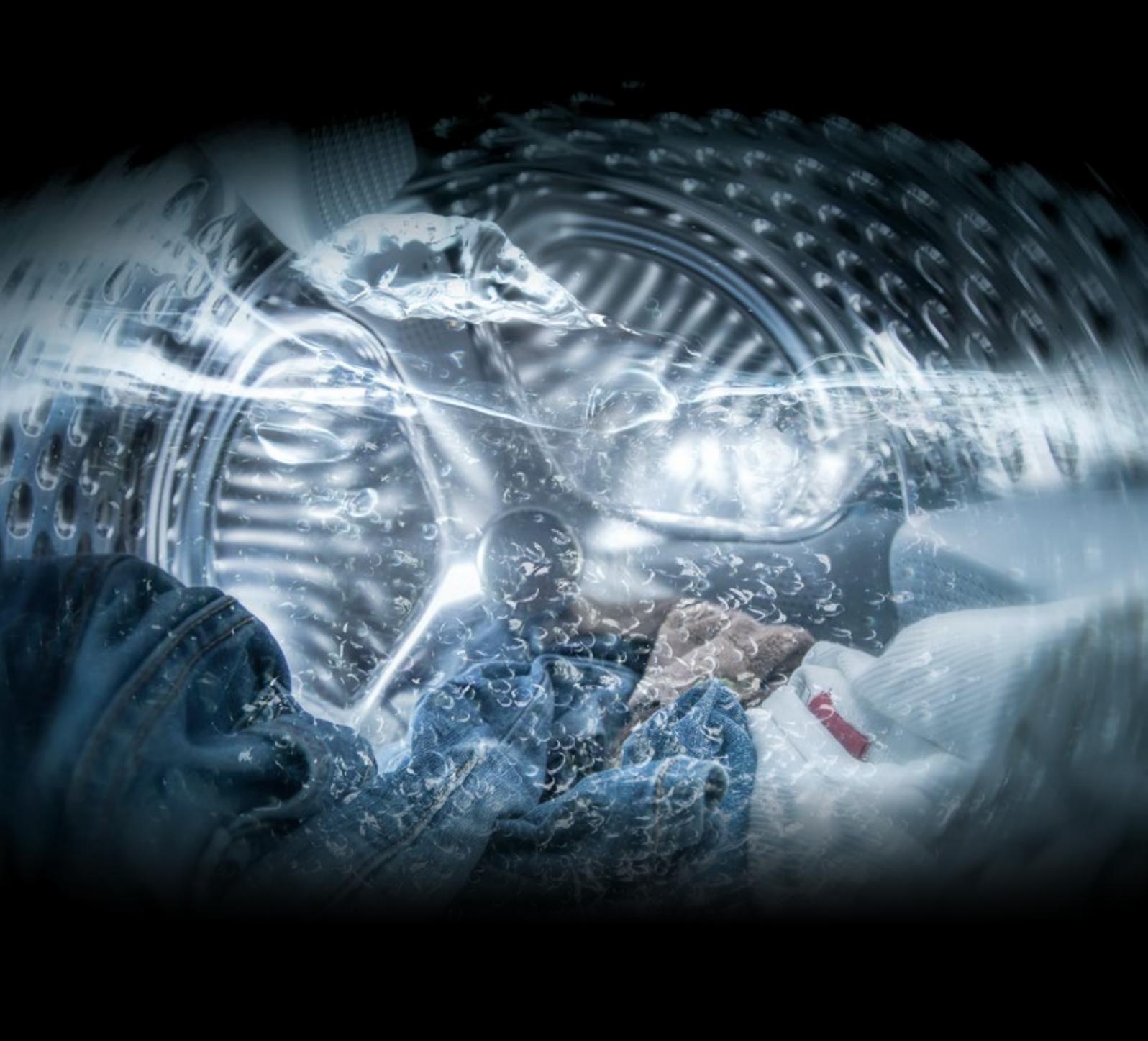
FlexFix® KNIPPER™ Product Code DUP 3 Stainless steel

FlexFix® Product Code DUP 4|6 Stainless steel

FlexFix® Flat Product Code DUP 1 Stainless steel

YKK™

Little Parts. Big Difference. >>>



PRESS STUD SYSTEMS MADE OF STAINLESS STEEL

Industrial washing is not only an endurance test for work clothing. Their snap fasteners also have to meet particularly tough requirements. Therefore, the press stud fastening system made of corrosion-resistant stainless steel are the best solution here.

Above all, the washing process plays a decisive role in the service life and performance of the products. Aggressive washing substances and cycle dewatering presses can degrease and deform the pushbutton fasteners and severely impair the fastener. The result is snap fasteners that can no longer be opened or closed. High repair rates are the result.

OUR STAINLESS STEEL SYSTEMS AT A GLANCE

For workwear / image clothing, textile service and technical applications

KNIPPER™ Product Code DUA 36 Stainless Steel
The tried-and- tested economy system on ring spring system



Snap Fastener System Product Code DUS 4 Stainless Steel
The universal S-Spring system



FlexFix® KNIPPER™ Product Code DUP 3 Stainless Steel
The forward-thinking longlife system



FlexFix® Product Code DUP 4|6 Stainless Steel
The durable high-performance system



FlexFix® Flat Product Code DUP 1 Stainless Steel
The innovative and revolutionary flat fastening system



Industrial laundry resistance: ●● MEDIUM ●●● HIGH
Rating according to YKK standards. We will be glad to advise you!

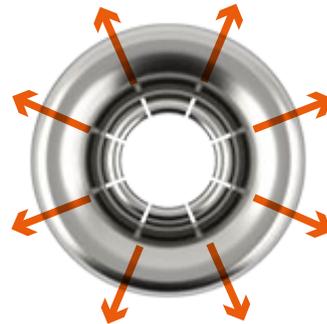
KNIPPER™ Product Code DUA 36 Stainless Steel THE TRIED-AND-TESTED ECONOMY SYSTEM

This pronged snap system, also known as KNIPPER™, is very safe and gentle on the fabric thanks to its properties. The five-fold prongs get anchored into the material without damaging it. FlexFix® KNIPPER™ Product Code DUP 3 is highly suitable for elastic and/or lighter fabrics. The flat design, light weight and the smooth fastener offers a variety of possibilities. Depending on the application purpose, the individual system components can be combined in various ways.



THE WORKING PRINCIPLE

By inserting the ring stud, the individual serrated leg elements of the socket are pressed outwards in the stainless KNIPPER™ product code DUA 36 serrated ring snap fastener system. The serrated legs thereby anchor themselves securely in the fabric without damaging it. Unlike central riveting (e.g. Spring Snap System), the pressure is distributed over the outer ring, thus achieving a particularly secure closure. With the open cap variant or the serrated ring, the fabric remains visible.



SPECIAL FEATURES

- Flat design
- Smooth fastener
- Gentle on materials
- Lightweight
- Can be combined

DESIGN OPTIONS

- Caps in stainless steel or plastic (PA66)
- Cap in a fashionable design / customer embossing

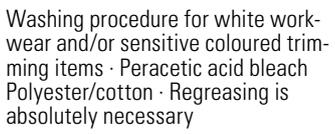
APPLICATION SCOPES FOR WORKWEAR

KNIPPER™ Product Code DUA 36 Stainless Steel is particularly suitable for white coats and blouses/shirts.

Item	Material thickness* [mm]	Grammage [gr]		Clothing			
		< 200	> 200	Coat	Blouses	Jackets	Trousers
 DAO 36	0,2 – 1,1	●		●	●		
 DAO 36.001	0,2 – 1,1	●		●	●		

*Fabric thickness is measured by a special YKK fabric micrometer.

TECHNICAL DATA

KNIPPER™ Product Code DUA 36 Stainless Steel	
Item designation	DAO 36 (soft) DAO 36.001 (standard)
Material	Stainless steel 1.4401
Processing	Semi-automatic and fully automatic
Care label	1. Household laundry     
	2. Industrial laundry  
Norm conformity	EN 71
	DIN EN 1811 Nickel release < 0.28 µg/week
Kensin	no
Absence of pollutants	OEKO-TEX Standard 100 (DETOX: We are currently undergoing recertification according to Attachment 6.) Class 2 (Products with direct skin contact)
	The item meets the requirements of the REACH Regulation in the respective valid version
	The item meets the statutory requirements of the Consumer Goods Ordinance and the Chemicals Prohibition Order in the respective valid version
Tear-off force (N)	> 90N
Temperature resistance	400°C
Melting range	approx. 1,500°C
Light-fast	ISO 105 B02
Corrosion resistance	high
Additional information	ATTENTION: After washing, REGREASING is absolutely necessary, for instance by means of a fabric softener. Otherwise, the powerful degreasing process during the industrial washing can lead to greatly increased opening values through to complete failure of the fastening system. To optimise and extend the durability of the fastening properties, we recommend closing fasteners during industrial washing, and always using rehydrating additives or, alternatively, the form-stable and durable press stud system FlexFix® KNIPPER™ Produkt Code DUP 3 stainless steel.

S-Spring Snap Fastening System

Product Code DUS 4 | 6 Stainless steel

THE UNIVERSAL S-SPRING SYSTEM

The S-Spring Snap Fastening System press stud system is based on the dual S-shaped spring wire made of stainless steel in the socket part. The smooth-running and precise fastener offers a broad application range for firmer textile materials and technical applications.



THE WORKING PRINCIPLE

The closure is created by joining the socket and stud, whereby the S-shaped wire of the socket is displaced when the ball penetrates and encloses the stud when it snaps into place. Cap and socket as well as stud and rivet are each centrally riveted therefore only conditionally suitable for knitwear and elastic fabrics.



SPECIAL FEATURES

- Sporty design
- Smooth running and precise
- Universal

DESIGN OPTIONS

- Caps in stainless steel or colour-matching plastic
- Cap in a fashionable design / customer embossing

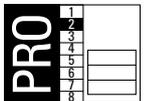
APPLICATION SCOPES FOR WORKWEAR

The S-spring snap system Product Code DUS 4 stainless steel is especially suitable for jackets and pants.

Item	Material thickness* [mm]	Grammage [gr]		Clothing			
		< 200	> 200	Coat	Blouses	Jackets	Trousers
 DSO 4.025	0,3 – 1,5		●	●		●	●
 DSO 6.025	0,3 – 1,5		●	●		●	●

*Fabric thickness is measured by a special YKK fabric micrometer.

TECHNICAL DATA

S-Spring Snap Fastening System Product Code DUS 4 6 Stainless steel		
Item designation	DSO 4.025S	DSO 6.025S
Material	Stainless steel 1.4401	
Processing	Semi-automatic and fully automatic	
Care label	1. Household laundry	
	2. Industrial laundry	 Washing procedure for white workwear and/or sensitive coloured trimming items · Peracetic acid bleach Polyester/cotton · Regreasing is absolutely necessary
Norm conformity	EN 71-3 ²	
	DIN EN 1811 Nickel release	< 0.28 µg/week
Kensin	no	
Absence of pollutants	OEKO-TEX Standard 100 (DETOX: We are currently undergoing recertification according to Attachment 6.)	Class 2 (Products with direct skin contact)
	The item meets the requirements of the REACH Regulation in the respective valid version	
	The item meets the statutory requirements of the Consumer Goods Ordinance and the Chemicals Prohibition Order in the respective valid version	
Tear-off force (N)	> 120N	
Temperature resistance	400°C	
Melting range	approx. 1,500°C	
Light-fast	ISO 105 B02	
Corrosion resistance	high	
Additional information	The item corresponds to the EN 71-1 with regard to the tear-off force if the mixing corresponds to the specification by YKK STOCKO FASTENERS GmbH. We recommend the forward-thinking FlexFix® Product code DUP 4 stainless steel Stainless steel series as a very durable further development.	

COST REDUCTION FOR LEASING WORKWEAR

Industrial laundering means workwear put to the test - YKK STOCKO FASTENERS has the solution to high repair rates

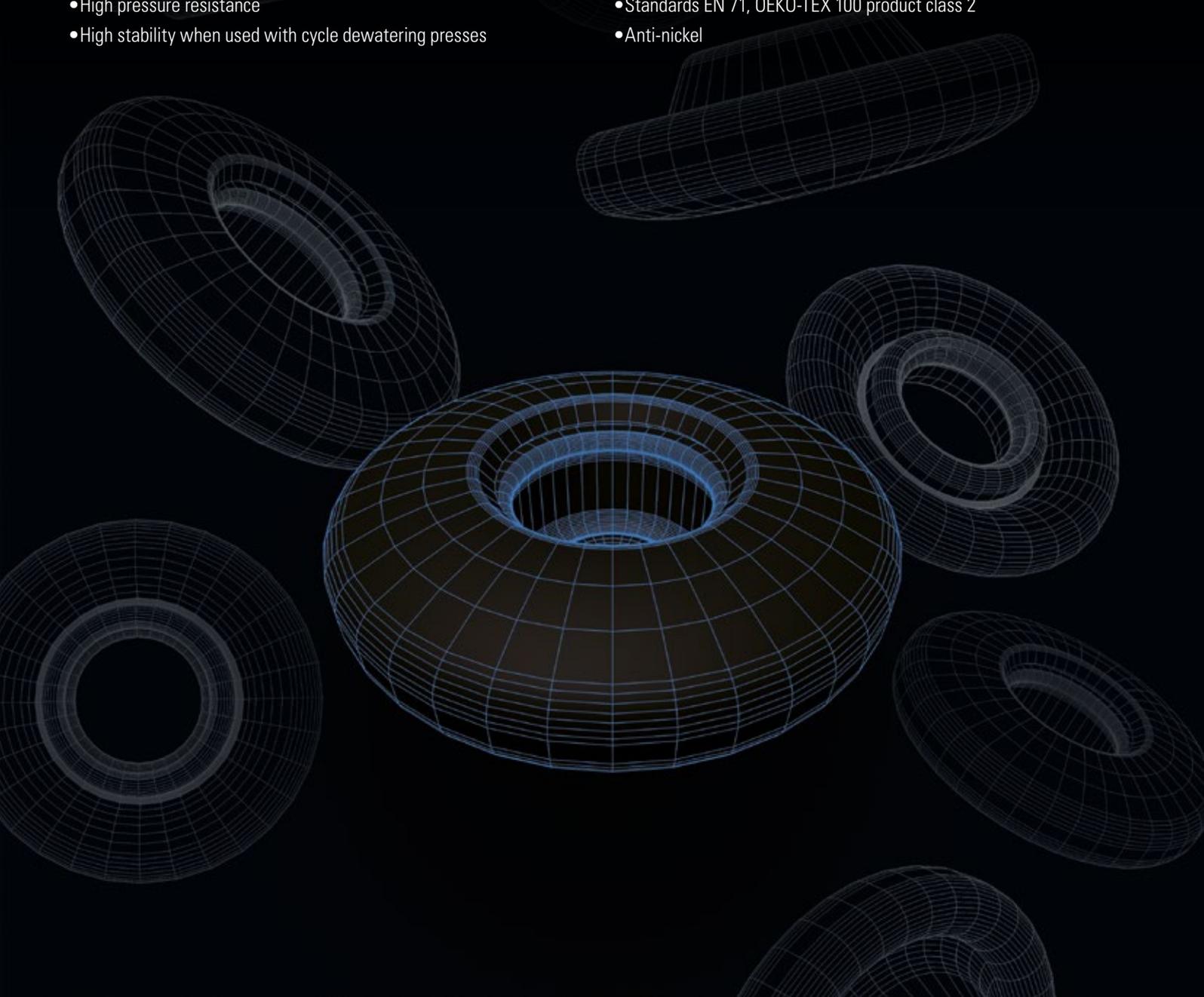
YKK's innovative and patented FlexFix® technology in the stainless steel variant in a material mix with plastic, withstands the high demands of the industrial washing process to a particularly high degree, reduces the repair rate and thus saves process costs. We will be pleased to advise you on the selection of the appropriate product!

FlexFix® stainless steel snap fastening system stand for cost reduction and particularly long service life! Certified according to DIN EN ISO 15797. Tests at textile service providers as well as the ITV and Hohenstein institutes prove the long-term durability.

All advantages of FlexFix® systems made of stainless steel at a glance:

- High pressure resistance
- High stability when used with cycle dewatering presses

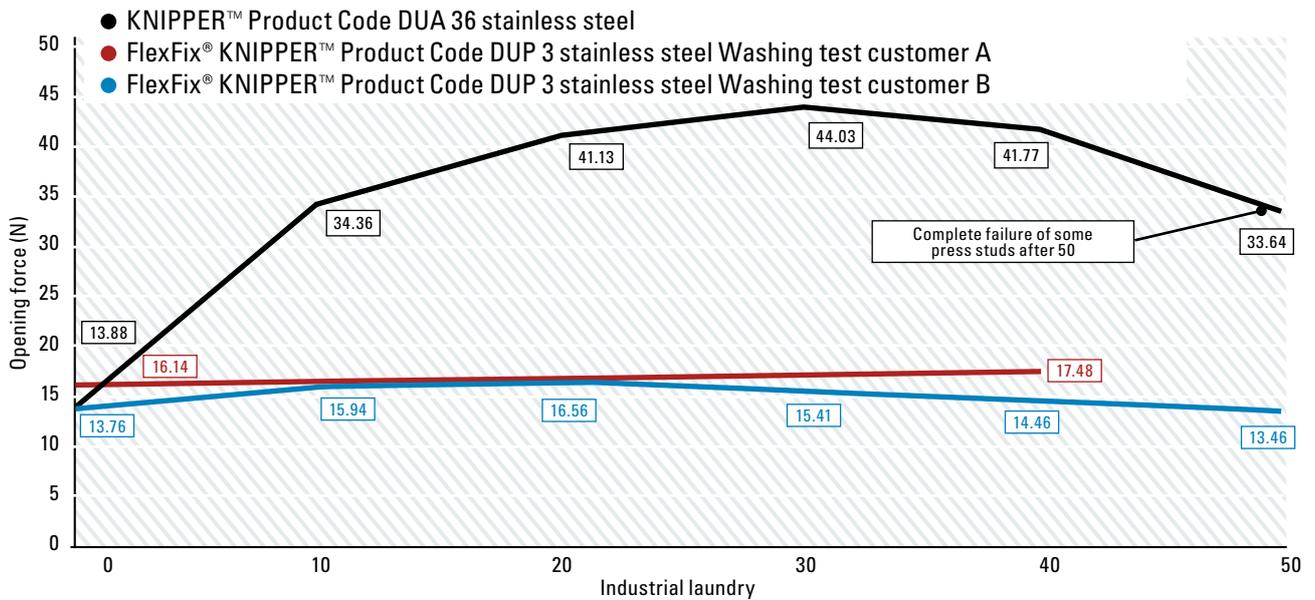
- No cold welding of socket and ball due to the use of high-performance plastics
- High thermal stability
- High corrosion resistance
- Long service life
- Constant opening values
- Reduction of the repair rate in the laundry
- Chemical resistance to hydrocarbons (automotive gasoline, mineral oil, motor oil, etc.), essential oils, alcohol and commercially available reagents (RKL list)
- Washing and cleaning resistance according to DIN EN ISO 15797 (after min. 50 washes)
- Standards EN 71, OEKO-TEX 100 product class 2
- Anti-nickel



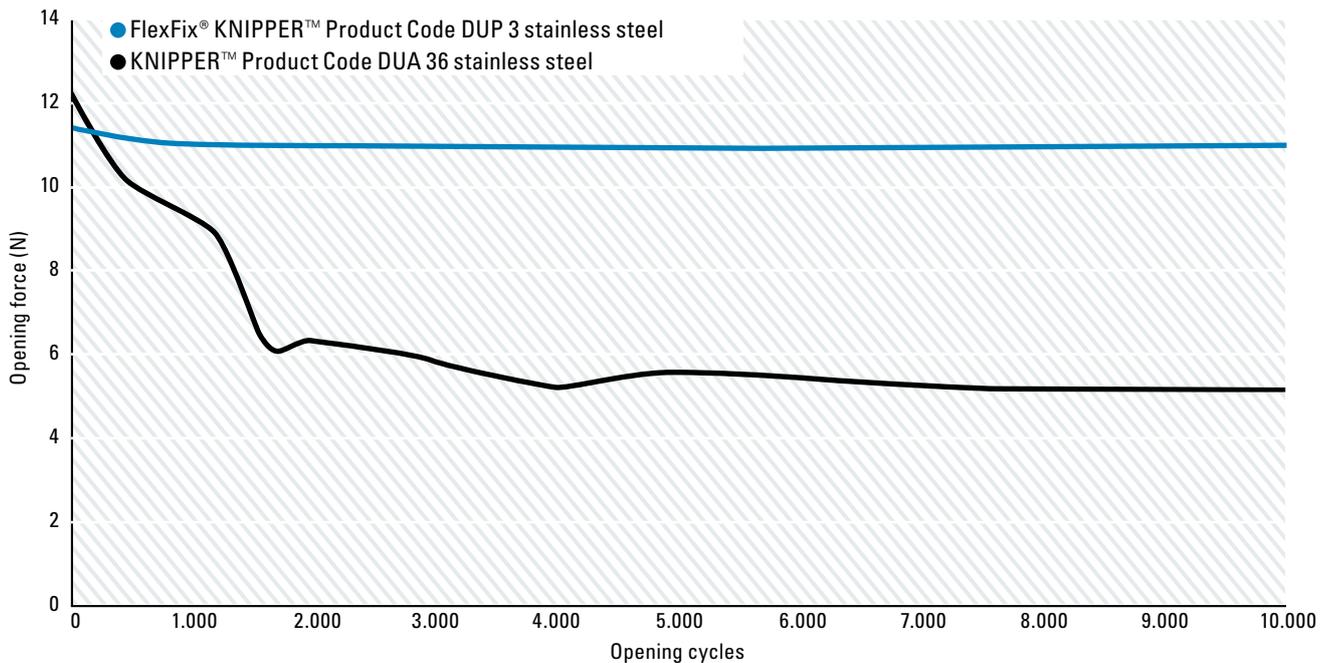
Tests prove the long-term durability of the stainless steel FlexFix® series

Tests conducted by service providers and the ITV Denkendorf and Hohenstein* institutes on the stainless steel FlexFix® series have proven this. With their high-quality workmanship, these products can reduce the repair quota and thus contribute to lowering costs. The consistently high quality ensures a high level of comfort.

SUCCESSFUL TESTS AT TEXTILE SERVICE SUPPLIER COMPANIES AND THE INSTITUTES ITV AND HOHENSTEIN



IMPRESSIVE LONG-TERM RESISTANCE



* The above-mentioned information corresponds to our current knowledge. Changes can be made at any time without prior notice. The technical information does not relieve you of your duty to carry out your own tests of our products with respect to their suitability for the intended application case. Our products are processed and used outside our control and therefore lie outside our scope of responsibilities. Our products are sold in line with our general terms and conditions.

FlexFix® KNIPPER™ Product Code DUP 3 Stainless steel

The trend-setting Longlife system based on serrated rings



Snap fasteners that undergo industrial washing need to meet stricter requirements. This includes the high mechanical load exerted by the dewatering presses. The opening values may not change either as a result of wear or degreasing. FlexFix® KNIPPER™ Product Code DUP 3 based on a retaining ring is suitable for thin and light to medium-heavy materials and knitwear. The excellent form stability is guaranteed by the FlexFix® technology. Thanks to the material selection, there is no risk of cold welding when buttoning up.

NEW PRESS STUDS FOR WORKWEAR

With FlexFix® KNIPPER™ you are on the safe side. The high-quality product, specially developed for industrial washing, has a long service life with constant opening values thanks to its dimensional stability. Sustainability is that simple.

HACCP

This product is suitable for HACCP garments in combination with the new detectable eyelet.

THE WORKING PRINCIPLE

This snap fastening system, part of the FlexFix® series, obtains its spring properties from an elastic plastic inlay, which is securely encased in stainless steel and thus particularly pressure-resistant. When the stud is inserted into the socket, it is securely enclosed by the spring-elastic and thermostable plastic core. Closure systems of the FlexFix® series guarantee 50,000 opening and closing cycles without significant wear.



SPECIAL FEATURES

- High stability when using cycle dewatering presses
- Constant opening values
- No cold welding of socket and stud due to the use of high-performance plastics
- High comfort due to consistent quality
- Long-term resistant of the repair rate in the laundries
- High thermal stability
- Reducing the repair rate in laundries

APPLICATION SCOPES FOR WORKWEAR

We recommend FlexFix® KNIPPER™ Product Code DUP 3 for lighter workwear such as smocks, chef jackets, shirts, blouses and knitwear.

Item	Material thickness*[mm]	Grammage [gr]		Clothing			
		< 200	> 200	Coat	Blouses	Jackets	Trousers
 DPO 3/36	0,2 – 1	●		●	●		
 NEW DPO 3/36 detectable (HACCP)	0,2 – 1	●		●	●		

*Fabric thickness is measured by a special YKK fabric micrometer.

TECHNICAL DATA

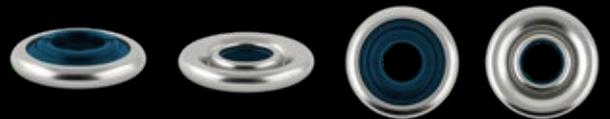
FlexFix® KNIPPER™ Product Code DUP 3 Stainless steel	
Item designation	DPO 3/36SP
Material	Stainless steel 1.4401 + plastic POM
Processing	Semi-automatic and fully automatic
Care label	1. Household laundry     
	2. Industrial laundry   Washing procedure for white workwear and/or sensitive coloured trimming items · Peracetic acid bleach Polyester/ cotton
Norm conformity	EN 71
	DIN EN 1811 Nickel release < 0.28 µg/week
Kensin	no
Absence of pollutants	OEKO-TEX Standard 100 (DETOX: We are currently undergoing recertification according to Attachment 6.) Class 2 (Products with direct skin contact)
	The item meets the requirements of the REACH Regulation in the respective valid version
	The item meets the statutory requirements of the Consumer Goods Ordinance and the Chemicals Prohibition Order in the respective valid version
Tear-off force (N)	> 90N
Temperature resistance	Up to 160°C (ISO 17493 – testing the convective heat resistance when using a hot-air circulating furnace – visual inspection of changes)
Melting range	approx. 180°C
Light-fast	high
Corrosion resistance	Stainless steel: high Plastic: very high

FlexFix® KNIPPER™ with detectable socket

The detectable snap fastener system for HACCP garments

One of the mandatory safety measures used in the food industry is the HACCP concept to avoid biological, chemical or physical risks. Foreign bodies such as glass splinters, but also buttons of work clothing can pose a risk and must be detectable in HACCP clothing.

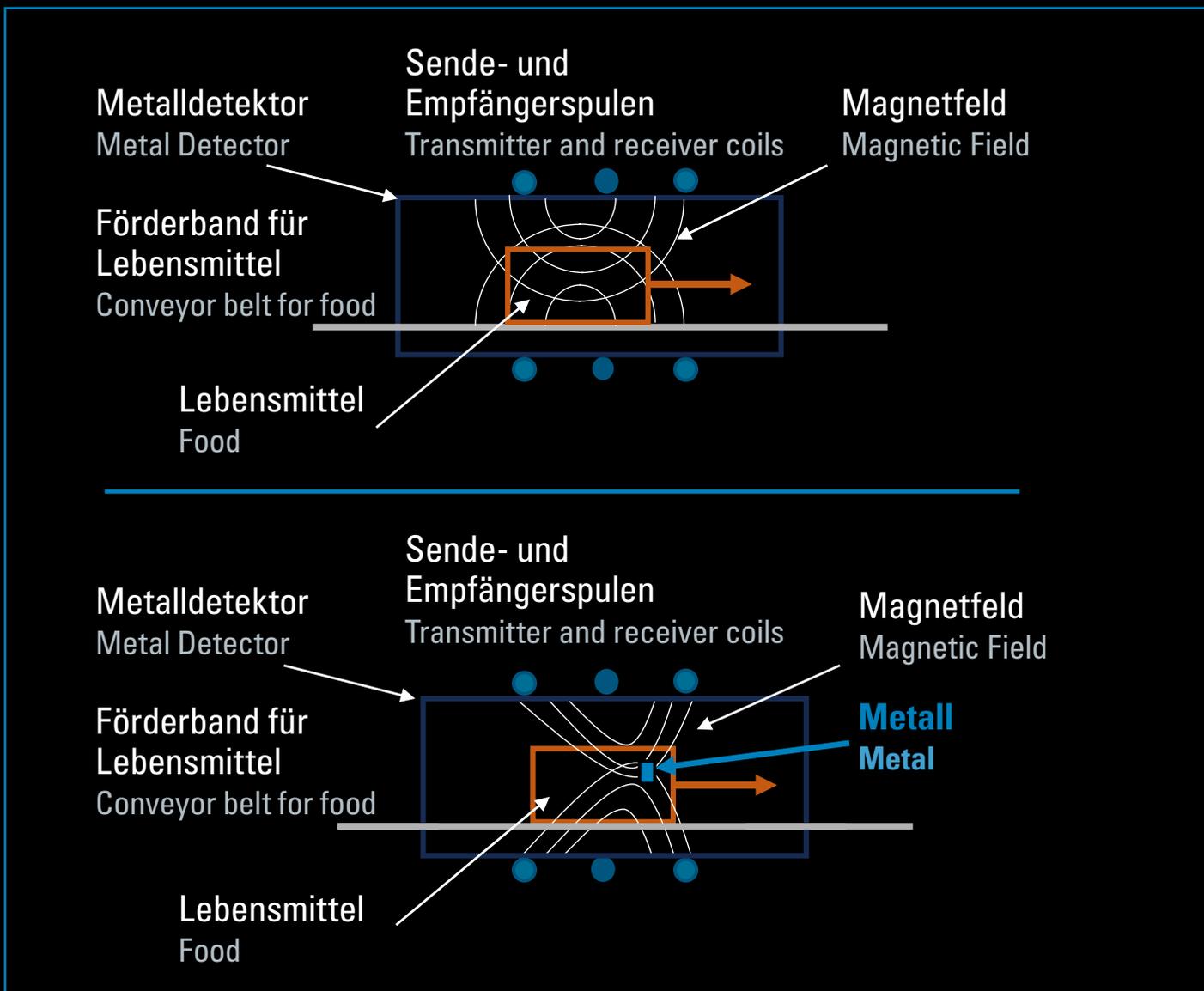
FlexFix® KNIPPER™, which is particularly suitable for industrial laundering, has been further developed to meet these stringent requirements. The plastic of the inlay of the previous FlexFix® KNIPPER™ socket has been replaced by a material with metal-based fillers. As a result, detectability is also achieved for the plastic component.





In cooperation with the company Sesotec GmbH, a well-known manufacturer of metal detection and sorting machines, the detectability could be proven depending on the metal detectors used.

In the food industry, metal detectors are usually used that operate according to the transmitter-receiver principle. An electro-magnetic field is built up by transmitting coils. When a metal part passes the detector, the magnetic field is disturbed, which is detected by the receiver coils. The electronics of the detector evaluates this signal and reports the metal part.



FlexFix® Product Code DUP 4|6 Stainless Steel THE DURABLE HIGH-PERFORMANCE SYSTEM



Snap fasteners that are industrially washed have to meet high requirements. These include the high mechanical stress caused by cycle drainage presses. The opening values must not change due to wear or degreasing. FlexFix® Product Code DUP 4 and 6 made of stainless steel are center riveted for firmer as well as heavy fabrics and materials. Excellent dimensional stability is ensured by FlexFix® technology - in two sizes. The material selection eliminates the risk of an extreme increase in opening values (cold welding due to complete degreasing in industrial washing).

THE SNAP FASTENERS FOR WORKWEAR

With FlexFix® Product Code DUP 4 and 6 made of stainless steel, any garment can be made virtually indestructible, thus contributing to sustainability.

THE WORKING PRINCIPLE

In FlexFix® Product Code DUP 4/DUP 6 Stainless Steel, a flexible high-tech plastic is integrated in the socket, which has spring-elastic properties. This connection of metal calotte and plastic inlay is particularly stable and withstands high mechanical loads. When the stud is pressed into the socket (spring part), the flexible plastic inlay expands so that the head of the stud snaps comfortably into place and is perfectly enclosed. This closure can be opened again just as comfortably.



SPECIAL FEATURES

- High thermal stability
- Long-term resistant
- Constant opening values
- High comfort due to consistent quality
- Chemical resistance to hydrocarbons (car gasoline, mineral oil, engine oil, etc.), essential oils, alcohol and commercially available reagents (RKI list).
- High stability when using cycle dewatering presses
- No cold welding of socket and ball due to the use of high-performance plastics

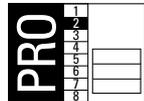
APPLICATION SCOPES FOR WORKWEAR

FlexFix® product code DUP 4 and 6 stainless steel are suitable for heavy garments such as jackets and pants.

Item	Material thickness* [mm]	Grammage [gr]		Clothing			
		< 200	> 200	Coat	Blouses	Jackets	Trousers
 DPO 4.025	0,3 – 1,5		●	●		●	●
 DPO 6.025	0,3 – 1,5		●	●		●	●

*Fabric thickness is measured by a special YKK fabric micrometer.

TECHNICAL DATA

FlexFix® Product Code DUP 4 6 Stainless Steel		
Item designation	DPO 4.025SP	DPO 6.025SP
Material	Stainless steel 1.4401 + plastic POM	
Processing	Semi-automatic and fully automatic	
Care label	1. Household laundry	
	2. Industrial laundry	 Washing procedure for white workwear and/or sensitive coloured trimming items · Peracetic acid bleach Polyester/ cotton
Norm conformity	EN 71	
	DIN EN 1811 Nickel release	< 0.28 µg/week
Kensin	no	
Absence of pollutants	OEKO-TEX Standard 100 (DETOX: We are currently undergoing recertification according to Attachment 6.)	Class 2 (Products with direct skin contact)
	The item meets the requirements of the REACH Regulation in the respective valid version	
	The item meets the statutory requirements of the Consumer Goods Ordinance and the Chemicals Prohibition Order in the respective valid version	
Tear-off force (N)	> 120N	
Temperature resistance	Up to 160°C (ISO 17493 – testing the convective heat resistance when using a hot-air circulating furnace – visual inspection of changes)	
Melting range	approx. 180°C	
Light-fast	high	
Corrosion resistance	Stainless steel: high	Plastic: very high



FlexFix® Flat Produktcode DUP 1 Stainless Steel THE INNOVATIVE AND REVOLUTIONARY FLAT SNAP SYSTEM

With the FlexFix® Flat, YKK STOCKO FASTENERS has developed a new, revolutionary snap system. Made of stainless steel, FlexFix® Flat snap fastening systems are consistently designed for industrial laundering and durability.

The snap fastener has thus reached a new dimension: highly comfortable, maximally functional, fashionably attractive – and flatter than ever before!

THE WORKING PRINCIPLE

The function of the FlexFix® Flat snap fastening system differs from all other systems in two essential characteristics:

1. FlexFix® directly on the stud

The FlexFix® component with high-tech plastic is not located on the socket, but on the stud of the system. The connection between the metal and plastic components is particularly stable and can withstand high mechanical loads. When the stud (spring part) is pressed into the socket, the plastic sheath slides smoothly into the socket and locks into place. This closure can be opened again just as conveniently. FlexFix® Flat is patent pending.

2. socket and stud combine into one component:

Unlike conventional snap fastening systems, where the stud part is connected to the socket and the build-up height of the individual parts is added up, in the FlexFix® Flat system the socket and stud are connected to form one part. This reduces the overall body height to almost half!



SPECIAL FEATURES

- Extremely flat design
- Low dead weight
- Low frictional resistance
- Constant opening values
- High pressure resistance
- Corrosion resistant due to stainless steel
- No cold welding
- High long-term resistance
- Smooth opening and closing behavior
- Very good wearing comfort
- Multiple design options

APPLICATION SCOPES FOR WORKWEAR

FlexFix® Flat Product Code DUP 1 Stainless Steel is suitable for heavy garments such as jackets and pants.

Item	Material thickness* [mm]	Grammage [gr]		Clothing			
		< 200	> 200	Coat	Blouses	Jackets	Trousers
	DPF01S	0,2 – 0,8		•	•	•	•
	DPFK1SP	0,2 – 0,8		•	•	•	•

*Fabric thickness is measured by a special YKK fabric micrometer.

TECHNICAL DATA

FlexFix® Flat Product Code DUP 1 Stainless Steel	
Item designation	DPF01S DPFK1SP
Material	Stainless Steel 1.4401 Stainless Steel 1.4401 + Plastic POM
Processing	Semi-automatic and fully automatic
Care label	1. Household laundry      2. Industrial laundry   Waschverfahren für weiße Arbeitskleidung und/oder empfindliche farbige Besatzartikel · Peressigsäurebleiche Polyester/Baumwolle
Norm conformity	EN 71 DIN EN 1811 Nickel release < 0,28 µg/week
Kensin	no
Absence of pollutants	OEKO-TEX Standard 100 (DETOX: We are currently undergoing recertification according to Attachment 6.) Class 2 (Products with direct skin contact) The item meets the requirements of the REACH Regulation in the respective valid version The item meets the statutory requirements of the Consumer Goods Ordinance and the Chemicals Prohibition Order in the respective valid version
Tear-off force (N)	> 120N
Temperature resistance	Up to 160°C (ISO 17493 – testing the convective heat resistance when using a hot-air circulating furnace – visual inspection of changes)
Melting range	approx. 180°C
Light-fast	high
Corrosion resistance	Stainless Steel: high Plastic: very high

INDUSTRIAL WASHING RESISTANCE LEVELS

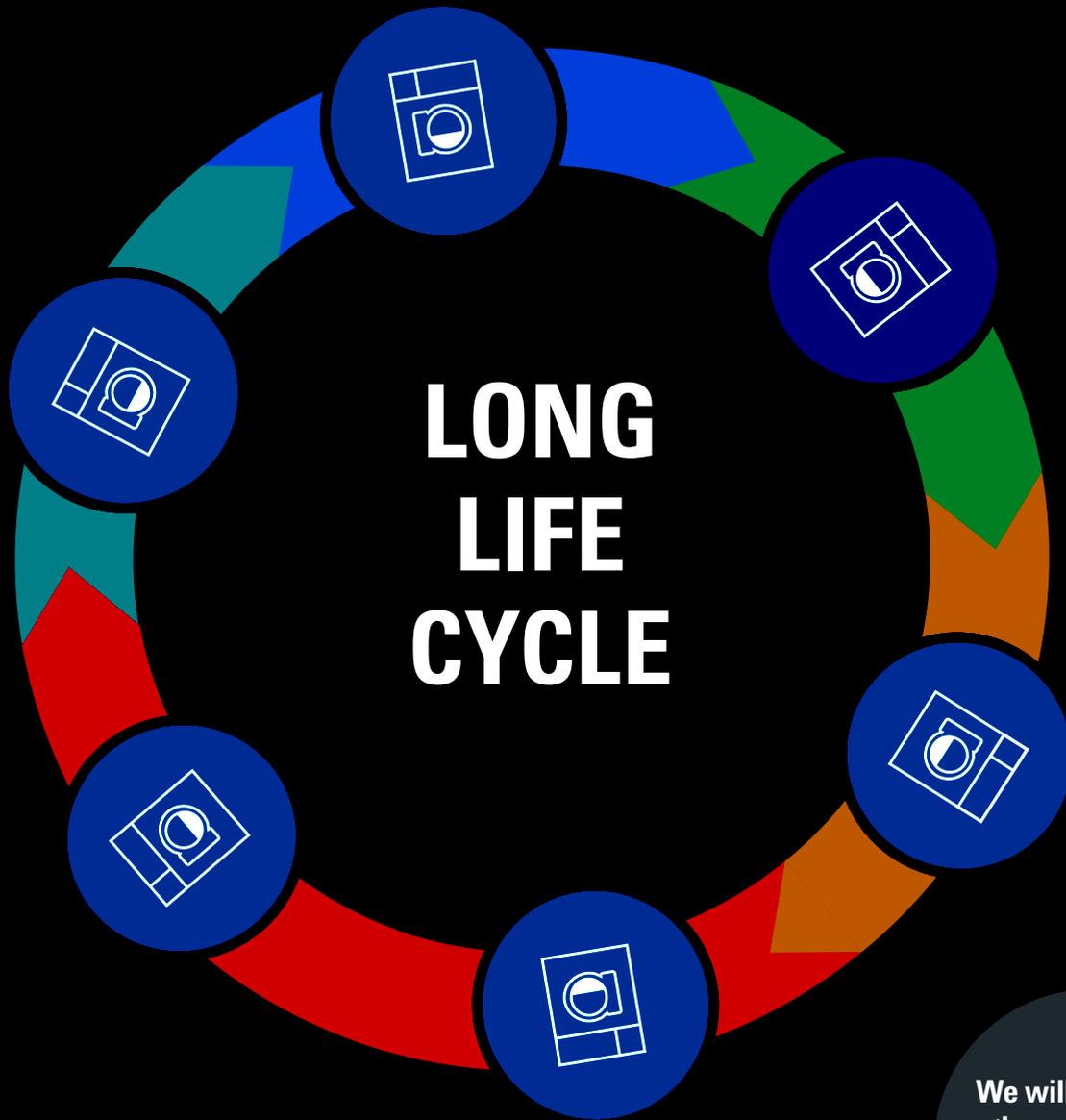
		Product Code	Material	Basic Corrosion Resistance for Household Washing	Corrosion Resistance for Industrial Washing	Superior Corrosion Resistance for Chloride Environment (Avoid pitting Corrosion)	To Avoid cold welding	Long Life with consistent opening forces	Multi Standard (EN11642) (EN343) etc.	Flat Design for less Material Crease	Detectable Plastic Inlay
SNAPET®	FlexFix® KNIPPER™ with detectable socket ●●●	DUP 3	Stainless Steel 316	×	×	×	×	×			×
	FlexFix® KNIPPER™ ●●●	DUP 3	Stainless Steel 316	×	×	×	×	×			
	KNIPPER™ ●●	DUA 36	Stainless Steel 316	×	×	×					
	KNIPPER™ ●	DUA 36	Stainless Steel 304	×	×						
	SNAPET®	SA 16	Brass	×							
SNAP	FlexFix® Flat ●●●	DUP 1	Stainless Steel 316	×	×	×	×	×		×	
	FlexFix® ●●●	DUP 4	Stainless Steel 316	×	×	×	×	×			
	S-Spring ●●	DUS 4	Stainless Steel 316	×	×	×					
	S-Spring	SW35	Brass	×							
PLASTIC SNAP	ADVANCEN® Fire-retardant ●●●	DP 300	Plastic	×	×	×	×		×		
	PLANCER® ●		Plastic	×	×	×	×				
	ADVANCEN® ●		Plastic	×	×	×	×				
JEANS	Jeans Tack Button ●●	JM1742	Stainless Steel	×	×						
	Jeans Rivet ●●	RD0950	Stainless Steel	×	×						

● LOW ●● MEDIUM ●●● HIGH

Values comply with YKK standards.

CONSISTANT OPENING AND
CLOSING FORCES EVEN AFTER
**MORE THAN 50 CYCLES OF
INDUSTRIAL WASHING**

CONSISTANT OPENING AND
CLOSING FORCES EVEN AFTER
**MORE THAN 10.000 CYLCES
OF OPENING AND CLOSING**



We will advise you
on the selection of the
appropriate snap
fastener product.

For more information and
our extensive product range,
please visit
www.stocko-ykk.de

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