



RIBE® Fastening systems

FASTENING SOLUTIONS

THE OVERVIEW



RIBE® – Fastening systems at a glance

FASTENING SOLUTIONS FOR YOUR CHALLENGES



◀ Certified development expertise

Lab with testing equipment to ensure that parts perform optimally in their installed state.

◀ Proven connection solution

Fasteners and fastening systems for critical joining tasks

Lightweight design, highly stressed connections, high-strength and ultra-high-strength materials and material combinations as well as electrical contact interconnections - today we are already working on the connection solutions for your future challenges. We are more than just a high-quality producer of fasteners and fastening systems. We see our task in the development of new products and application engineering design for optimally customized and coordinated solutions. Product development, engineering and production are also closely linked at RIBE - for efficient and sustainable production of our entire range. Our development services and expertise in a wide range of production technologies have helped establish us as a technology leader in a variety of application areas in the global market.

High quality and reliable fastening solutions

RIBE multiform



RIBE specialform

CUSTOMIZED SPECIAL SOLUTIONS AND DRAWING PARTS



Nominal size shaft length	15 - 100 mm
Nominal size thread diameter	5 - 12 mm
Thread forming	Metric thread, UN thread Threadform thread types (see RIBE threadform)
Strength grade	4.8 - 12.9 (gem. DIN EN ISO 898-1) F040V - F120V
Shanks	Thin shank; full & partial thread; solid shank; expansion shank; double thread etc.
Corrosion protection	Zn - phosphated & oiled; electroplated zinc or zinc alloy zinc flakes.
Lubricant	Top coats tailored to customer- & application requirements
Complementary solutions	Technical cleanliness according to VDA 19.1; all common drive attacks and head shapes; suitable for automatic assembly; patch coatings; captive rolled-on (special) discs; licensed products such as MATHread®, Powerlok®, Kleerlok®, brake threads; ratchet teeth under head; limited strength ranges
Highlights	Full service solution <ul style="list-style-type: none">• We accompany you in your development process from the optimal design of the drawing to the first samples from RIBE prototyping to series production
Application examples	Ball studs, sealing screw joints, screw plug, steering wheel screw joint, eccentric screws

RIBE highform

DYNAMICALLY HIGHLY STRESSED STEEL BOLTS FOR THE MOST DEMANDING REQUIREMENTS



15 - 100 mm

5 - 12 mm

Metric threads (also MJ), UN threads

12.9 (Din EN ISO 898-1)
12.9 S - 15.9 S (acc. to VDA 235-206)
F120V - F150V

Fully threaded or partially threaded as expansion shank, fitting shank
(optionally also as grooved profile), thin shank

Phosphating (Zn or Mn) & oiled electroplated
zinc or zinc alloy zinc flakes

Customer- & application-specific top coats

All common drive applications and head shapes, technical cleanliness according to VDA 19.1, interpretation of assembly instructions, batch-specific head marking, suitable for automatic assembly; captive rolled-on discs, locking teeth under head

- Finish rolled - the thread is applied completely in the martensitic quenched and tempered condition
- Continuous vibration test possible during series production
- Strengths up to 1.600 MPa; 90% yield strength ratio
- High performance in the bolted connection
- Safe, overelastic mounting
- Secure connection over runtime; weight & CO2 savings

Connecting rod bolts, flywheel bolts, cylinder head bolts,
main bearing bolts

RIBE basicform

NORM - AND STANDARD BOLTS



15 - 100 mm

5 - 12 mm

Metric thread, UN thread

8.8 - 12.9 (gem. Din EN ISO 898-1)
F080V - F100V

Fully threaded or partially threaded as a fit,
full or thin shank

Electroplated zinc or zinc alloy zinc flakes

Customer- & application-specific coordinated
top coats

All common drive and head shapes; technical cleanliness according to VDA 19.1; interpretation of assembly instructions; suitable for automatic assembly; captive rolled-on discs (according to DIN EN ISO); licensed products such as Powerlok®, MATHread®, Kleerlok®; locking teeth under head

- RIBE quality for stable processes
in your assembly

Cover bolting, chassis bolting, aggregate bolting,
seat bolting, ground bolting

*VDA 235-206 to be published shortly

All features must be validated in the specific customer application. Liability is excluded without validation

High quality and reliable fastening solutions

RIBE multiform

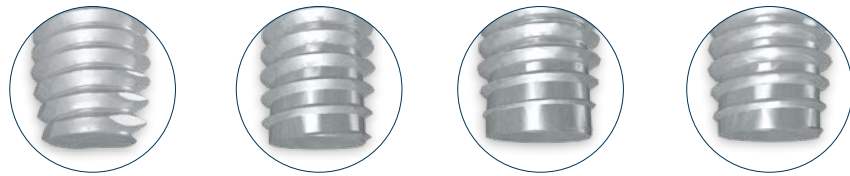


RIBE threadform

THREAD-FORMING SCREWS FOR APPLICATIONS

Application areas

In solid material (steel, cast iron, aluminum)



Nominal size shaft length

12 - 100 mm

Nominal size thread diameter

5 - 12 mm

Thread forming

RIBE Triform™

Taptite II®

Duo-Taptite®

Taptite 2000®

Strength grade

8.8 - 12.9
F080 - F120 V/E/I

Shanks

Fully threaded or partially threaded as solid or thin shank

Surface coating

Electroplated zinc or zinc alloy zinc flakes

Lubricant

Top coats tailored to customer- & application requirements

Complementary solutions

All common drive applications and head shapes (preferably ASR ISR); technical cleanliness according to VDA 19.1; suitable for automatic assembly; captive rolled-on washers; ratchet teeth; Kleertite® for cleaning of e.g. painted pilot holes

Highlights

- RIBE Triform™ variants: highest load-bearing capacity due to circular cross- section
- Chipless thread forming
- Cost advantages due to elimination of thread cutting / -molding
- Direct use in drilled or cast holes
- No need for threadlockers due to increased resistance to loosening

Application examples

Electrical contacting, steering gear fastening, locking screws, seat rail fastening, gear screw connection

RIBE threadform

THREAD-FORMING SCREWS FOR APPLICATIONS

In sheet metal



12 - 100 mm

5 - 12 mm

RIBE Triform™ DB

RIBE Triform™ DB HF

Extrude-Tite®

8.8 - 12.9
F080 - F120 V/E/I

Fully threaded or partially threaded as a full- or thin shaft

Electroplated zinc or zinc alloy or zinc flakes

Customer- & application specific top coat

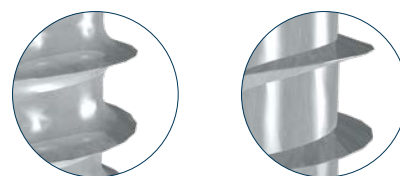
See RIBE thread form screws
with furrowed thread in solid material

Complementary to furrowing thread in solid material:

- RIBE Triform DB HF: for screw connections in high-strength sheets (tailored blanks)
- Direct use in drilled or punched holes

Body bolting, seatbelt buckle fastening

In sheet metallic plastic



12 - 100 mm

4 - 8 mm

RIBE Plastoform™

RIBE PR

> F040 V

Full thread or partial thread as full- or thin shaft

Electroplated zinc or zinc alloy or zinc flakes

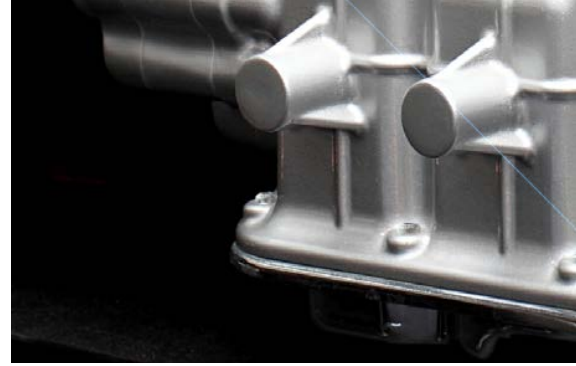
Customer- & application specific
coordinated top coats





See RIBE thread form screws with
furrowed thread in solid material

Complementary to furrowing
thread in solid material:

- RIBE Plastoform: for screw connections in brittle plastics
- RIBE PR: for screw connections in ductile plastics
- Direct use in drilled or cast holes

Car interior, air filter, plastic aggregate fastening,
pump bolting



	STANDARD AL9		ASSEMBLY-OPTIMIZED	
				
Coating systems	RIBE-LUB [®]		Al-phosphated + RIBE-LUB [®]	
Drives	ASR	ISR	ASR	ISR
Thread sizes	M5 - M12	M5 - M10	M5 - M12	M4 - M10
Nominal sizes bolt length (depending on nominal size thread)	12 - 100 mm			
Highlights	<p>Advantages in combination with light metal</p> <ul style="list-style-type: none"> • Lightweight construction due to low density, screw-in depth and flange design • Recyclability of the overall system • Corrosion stability in the overall system • Uniform expansion with clamping part 		<p>Optimized assembly</p> <ul style="list-style-type: none"> • Multiple assembly • Contact fittings • For unmachined / rough cut surfaces 	
Application examples	Oil pan-, gearbox bolting		Magnesium gearboxes, busbars, cast rough gearbox bolts	
				



HIGH CORROSION PROTECTION



RIBE-LUB® IK+

ASR

ISR

M5 - M12

M5 - M10

12 - 100 mm

High corrosion protection

- Chemical resistance
- For unmachined / rough cut surfaces

Aero wheel fittings, steering systems



HIGH STRENGTH & TEMPERATURE STABLE



Al-phosphated + RIBE-LUB®

Aluform HT - product innovation

For more information please contact us...

High strength & temperature stable

- Improved mechanical strength
- Very good thermal stability
- High clamping force level under temperature load

Lightweight bolting in units subject to high thermal loads



SPECIAL SOLUTIONS



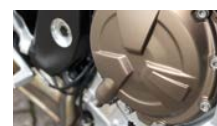
M4 - M12

12 - 100 mm

Full service solution




We accompany you in your development process from the optimal design of the drawing to the first samples from the RIBE prototype construction to the series production.

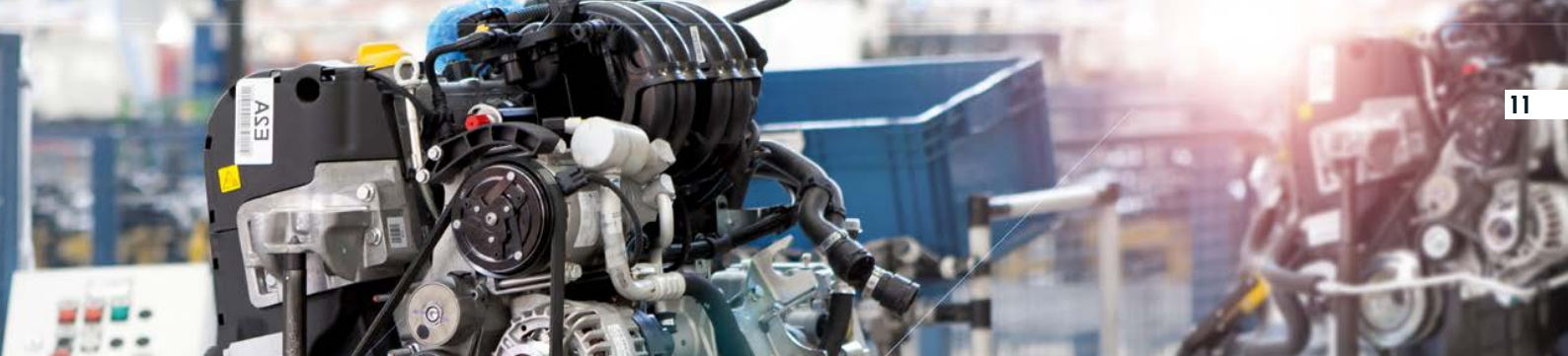
Sealing function due to annular blade, patch coatings, double thread, coldform parts





FUNCTIONAL MODULES





Application areas	For plastic components	For lightweight constructions	For extra thin flanges
			
Available dimensions	M5 - M8	M5 - M6	M6
Press-out forces bolt-sleeve	$F_A > 10 \text{ N}$		
Radial clearance (assembly clearance bolt to sleeve)	$\Delta 0.8 \pm 0.25 \text{ mm}$ up to $\Delta 1.75 \pm 0.25 \text{ mm}$		
Drives	ASR, ISR, ASK		
Highlights	<ul style="list-style-type: none"> • Standard for captive bolts in plastic components • optimized regarding surface pressure, screw - thread engagement, compactness and lateral movement. 	<ul style="list-style-type: none"> • For use with light/soft basic constructions, e.g. made of magnesium. • Extremely large contact surface to reduce surface pressure 	<ul style="list-style-type: none"> • The only way to use captive bolts with a flange thickness of 5 mm
Application examples	Thermal management	Magnesium components	Sensors



FUNCTIONAL MODULES

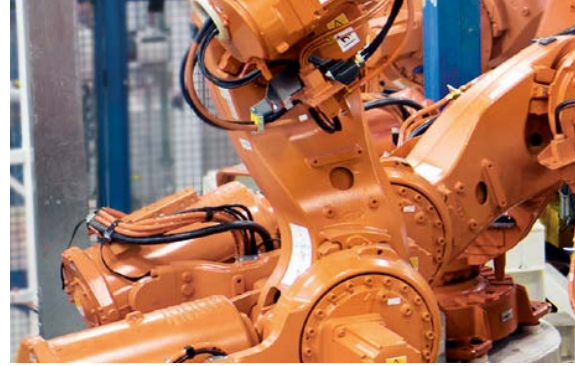
For weight reduction	With retaining function	For vibration damping	Special customer requirements
			
M6		M6 - M8	
$F_A > 10\text{ N}$			
$\Delta 0.8 \pm 0.25\text{ mm}$ up to $\Delta 1.75 \pm 0.25\text{ mm}$			
ASR, ISR		ASR, ISR, ASK	
<ul style="list-style-type: none"> Over 60% weight savings. The only captive limiter - sleeve combination made of aluminum in large-scale production. 	<ul style="list-style-type: none"> Retaining function to avoid collision with interfering edges when joining the assembly. 	<ul style="list-style-type: none"> For every kind of vibration dampening - for acoustic or durability reasons. 	<ul style="list-style-type: none"> Integration of additional functions and requirements by using additional elements.
Gear housing cover	Cooling management	Frame mounting	Cylinder head cover




Optimal fit solutions			
	EPB STAKING BOLT	SNB SELF PIERCING STUD	STM SELF PIERCING NUT
			
Thread sizes	M5, M6, M8, M10, M12	M6	M5, M6, M8
Bolt length (depending on nominal size thread)	12 - 40 mm and 20 - 50 mm	16 - 40 mm	-
Strength grade	8.8, 9.8, 10.9	8.8	10
Surface coating	OEM approved coatings		
Application thickness	0.75 - 2.50 mm	0.60 - 2.00 mm	0.60 - 2.50 mm
Tensile strength	150 - 600 MPa		
Function	Universal and versatile solution	New development of a self-piercing stud for process cost reductions and higher performance in thin sheet applications	Self-piercing nut for process cost reduction
Application examples			



Light weight & clearance fit solutions		High thickness fit solutions		
SEB FLUSH MOUNT STAKING BOLT	LBM LIGHTWEIGHT NUT	DBB THICK SHEET STAKING BOLT	DBM THICK SHEET METAL NUT	STM+ SELF PIERCING NUT
				
M5, M6, M8		M5, M6, M8, M10, M12	M5, M6, M8, M10, M12, M14	M10, M12
12 - 25 mm	-	12 - 40 mm and 20 - 50 mm	-	-
010.9	10	8.8, 9.8, 10.9		10
OEM approved coatings		OEM approved coatings		
1.50 - 5.00 mm	1.20 - 4.00 mm	2.51 - 9.00 mm	≥ 2.00 mm	2.01 - 3.00 mm
150 - 600 MPa	150 - 350 MPa		150 - 600 MPa	
Compact design for flush mount applications	Achieves up to 75% weight savings depending on dimensions	Universal solution for thick sheet metal applications	Universal solution for thick sheet metal applications	Self piercing nut for process cost reductions in thick sheet metal applications
				



High strength fit solutions			
	ENB CLINCHING BOLT	ENM CLINCHING NUT	S-ENM SPECIAL CLINCHING NUT
			
Thread sizes	M5, M6, M8		M8, M10
Bolt length (depending on nominal size thread)	12 - 40 mm	–	–
Strength grade	8.8, 10.9	10	10
Surface coating	OEM approved coatings		
Application thickness	0.75 - 2.50 mm	1.00 - 2.50 mm	1.20 - 2.40 mm
Tensile strength	600 - 2000 MPa		980 - 2000 MPa
Function	Solution for high & ultra high strength steels	Solution for high & ultra high strength steels	New development for applications in dual phase & press hardened steels
Application examples			



Water tight fit solutions

STH
SELF PIERCING
HAT NUT



M6

-

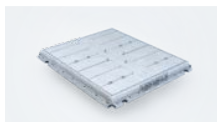
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OEM approved coatings

0.60 - 2.00 mm

150 - 600 MPa

New development of a self piercing nut with cap
for watertight applications



RIBE® IN MOTION



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