



Technical Product Data Sheet

RIBE® APPLICATION TECHNOLOGY – ENSURING OPTIMUM PRODUCT PERFORMANCE

Performance reliability – from design verification to assembly behavior and service life in operation.

› RIBE® APPLICATION TECHNOLOGY EXPERTISE

Design, assembly behavior and operating load of fasteners

Equipping laboratories with the latest testing methods is crucial for ensuring reliable and safe analysis of fastener properties. However, engineers with extensive experience in fastener design who understand how to conduct these tests accurately continue to play the most decisive role in this process. After all, this is the only way to draw meaningful analytical conclusions from test results. The central focus of RIBE's Application Engineering is to ensure that fasteners function properly when operated at the customer's site – which is why the correct design and usage specifications for the specific application are such a crucial factor.

› IN-DEPTH ANALYSIS FOR VALIDATION AND PROBLEM DEFINITION

As a leading service provider for fastener testing, RIBE Application Engineering assists with both fastener validation and troubleshooting complex issues. Analyses of damage cases with suggestions for optimization – such as testing of clamping force curves, tightness and contact resistance before and after operating load – are just a few of our areas of expertise.

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◀ Application Engineering
Application technology
testing at RIBE

▶ RIBE® APPLICATION TECHNOLOGY – OVERVIEW OF TESTING METHODS

Testing method	Special applications	Application area
Friction coefficient testing in accordance with DIN EN ISO 16047 (RIBE, REC, Test, Schatz-Kistler)	<ul style="list-style-type: none"> Prepared original components Under the influence of temperatures of up to 150° C With integrated length measurement during the friction coefficient test. 	1 kN - 250 kN 1 Nm - 500 Nm
Screw-in and assembly test (REC-BOSCH REXROTH)	<ul style="list-style-type: none"> Tightening instructions Testing on original components 	0.15 - 15 Nm, 0.6 - 60 Nm, 1.5 - 150 Nm, 5 - 500 Nm
Tensile test ISO 898-1 Compression test DIN 50106	<ul style="list-style-type: none"> Extensometer with 1 µm measuring accuracy 	20 N - 200 kN tensile or compression
Clamping force measurement before and after operating loads – relaxation measurements on fittings	<ul style="list-style-type: none"> Ultrasonic testing or tactile extension measurement On-site customer testing 	Free clamping length min. 1x D
Contact resistance testing	<ul style="list-style-type: none"> Resistance measuring device with online measurement on friction and assembly test bench 	
Fatigue assessment according to DIN 969 High-frequency pulsator (RUMUL, Amsler, ZWICK) Certified test laboratory according to VW 60252	<ul style="list-style-type: none"> Confirmation of operational strength under high dynamic requirements Wöhler/Hück, among others Fatigue analysis 	1 - 100 kN; 0.3 - 30 kN 70 - 220 Hz
Loosening behavior of fittings – dynamic test under shear load (UNBRAKO)	<ul style="list-style-type: none"> Evaluation of energy behavior 	Up to 25 Hz, prestressing force 5 - 250 kN, shear force up to 30 kN, Shear motion up to +/-2 mm
Metallography, sample preparation, microscopy (stereo, reflected light, digital, SEM)	<ul style="list-style-type: none"> Microstructure analysis Fatigue analysis 	Up to 500 times opt. magnification
Hardness test	<ul style="list-style-type: none"> Hardness mapping CHD Knoop parallel to contour 	Vickers 0.3 - 30 Knoop 0.1 - 10 Shore A, D
Tightest test for fasteners (fluid, air)	<ul style="list-style-type: none"> Water column and pressurization incl. live recording 	Water column up to 0.1 bar Pressure up to 10 bar
Preparation and mechanical processing of original parts	<ul style="list-style-type: none"> All tests/test parts from a single source 	