



**LET'S TALK ABOUT ...**



Pb free 09.2023

**... a new approach to lead-free  
quenching and tempering,  
innovative, unique.**





## Innovative process for lead-free quenching and tempering



### Extended range of dimensions and grades as well as > 3 mm thickness

Proven and extensively tested up to **5 mm**

**New applications,** e. g. in medical technology, food industry and many others.

**Direct customer benefit** and possible cost advantages due to better quality and reduced straightening operations

### Continuous development

Get in touch with us!





## Excellent flatness and microstructure due to lead-free quenching and tempering

The current standard for quenching and tempering of carbon steel strip and stainless chromium steel is to use either a lead-bismuth-based molten metal bath or hydrogen for quenching.

We have combined the advantages of these two technologies and developed a worldwide unique, lead-free quenching system for a wide range of sizes. This is our unique selling point.

This innovative technology has been used by Risse + Wilke for many years, especially for applications with highest demands on technological properties, microstructure, and shape tolerances, and has been continuously developed. With this lead-free process we achieve a 50% improvement in flatness compared to conventional lead bath quenching and can also lead-free quench and temper steel strip up to 5 mm thickness.

A new approach to quenching and tempering.

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Contact us!





## Join us reaching new dimensions with lead-free quenching and tempering...

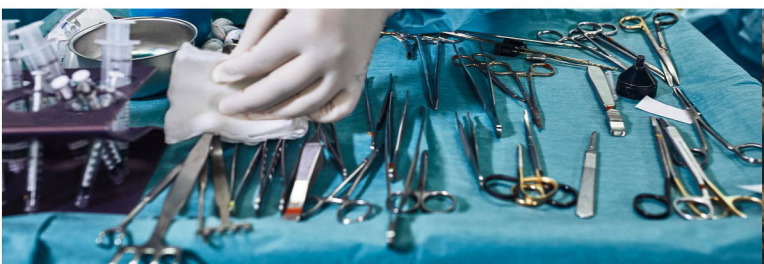
Thickness (mm)	Width (mm)	Hardness range (HRC)
up to <b>5.0 mm</b>	from 30 mm	35 - 52

Standard sizes available for all mentioned grades, others on request.



Grades	Material code	Applications examples
C60S	1.1211	clutch plates, clamps/springs, circular saws and brush cutters, hand saws, oscillating tools, magnetic adhesive labels, etc.
C67S	1.1231	
C75S	1.1248	
C80S	1.1284	
C100S	1.1274	

Grades	Material code	Applications examples
51CrV4	1.8159	cutting tools: hand saws, band saws, circular saws, oscillating tools, paper scrapers, wood-/ stone gang saws, etc.
58CrV4	1.8161	
68CrNiMo3-3	1.6595	
75Ni8	1.5634	
75Cr1	1.2003	
80CrV2	1.2235	
95Cr1	1.2018	
102Cr6	1.2067	





## ... and lead-free stainless too. We can do it!

Due to the flexible temperature control during hardening, both low-carbon steel and high-alloy stainless steel can be quenched and tempered without lead.

Grades	Material code	Applications examples
X20Cr13	1.4021	saws and knives for food and medical technology, springs, screen printing squeegees, leaf damper and shock absorber valves
X30Cr13	1.4028	
X39Cr13	1.4031	
X38CrMo14	1.4419	

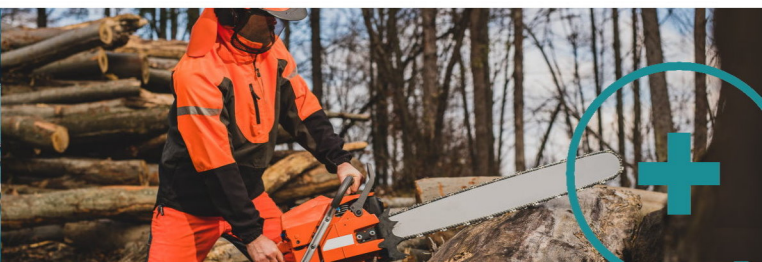
Grades	Material code	Applications examples
C40E	1.1186	clamps e.g. for automotive applications, puncture-resistant shoe soles
C45E	1.1191	
C50E	1.1206	
C55E	1.1203	

Grades	Material code	Applications examples
20MnB5	1.5530	stone circular saws, conveyor belts, gear and clutch components
27MnCrB5-2	1.7182	
25CrMo4	1.7218	
42CrMo4	1.7225	
50CrMo4	1.7228	cutting tools, knives, mechanical engineering, guide bars for chain saws

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## Cold rolled strip expertise under one roof



### Our locations at a glance

Our group of companies includes: **Risse + Wilke Kaltband GmbH & Co KG** for cold rolled steel strip and quenched and tempered steel strip. You can find the experts for hot rolled steel and sheet metal at **Wilke GmbH**. Our colleagues at **Hugo Schmitz** can offer smaller batches - not only for quenched and tempered steel, but also for special grades as well as wire and stainless steel. **General Business Service (GBS)**, our specialists from Italy are providing optimal solutions for the "stone gang saw" segment.



#### **Risse + Wilke Kaltband GmbH & Co. KG**

Stenglingser Weg 46

D-58642 Iserlohn

Tel.: +49 (0) 2374 935 0

Fax: +49 (0) 2374 935 225

[info@risse-wilke.de](mailto:info@risse-wilke.de)

[www.risse-wilke.de](http://www.risse-wilke.de)



#### **TECHNICAL CUSTOMER SUPPORT**

Technische Kundenberatung

#### **Adam Kazuch**

+49 (0) 2374 935 599

[a.kazuch@risse-wilke.de](mailto:a.kazuch@risse-wilke.de)

#### **SALES TEAM LEADER**

Teamleitung Vertrieb

#### **Milan Brajkovic**

+49 (0) 2374 935 480

[m.brajkovic@risse-wilke.de](mailto:m.brajkovic@risse-wilke.de)