

Springs



Gear and motor
construction



Rollers



Rails



Foundries



Turbines



Machinery and
tool construction



Sking

EXCELLENCE 

IN GRINDING

**ROLLERS
GRINDING**



YOUR CHALLENGE

EFFICIENT PROCESSES. CONSTANT PARAMETERS. CONSISTANT QUALITY.

The focus is on the economical processing of roller surfaces, since time is money! But with all cost-effectiveness, there are other assessment criteria that must also be taken into consideration. The following factors have a decisive influence on the grinding result and the process costs involved. The interplay of all these factors ultimately guarantees the optimal and central functioning of the end product, irrespective of whether the rollers are used in the steel, aluminium or paper industry. All the following parameters are taken into account in the conception and production of THELEICO abrasive wheels:

Grinding more quickly

(material removal per period)

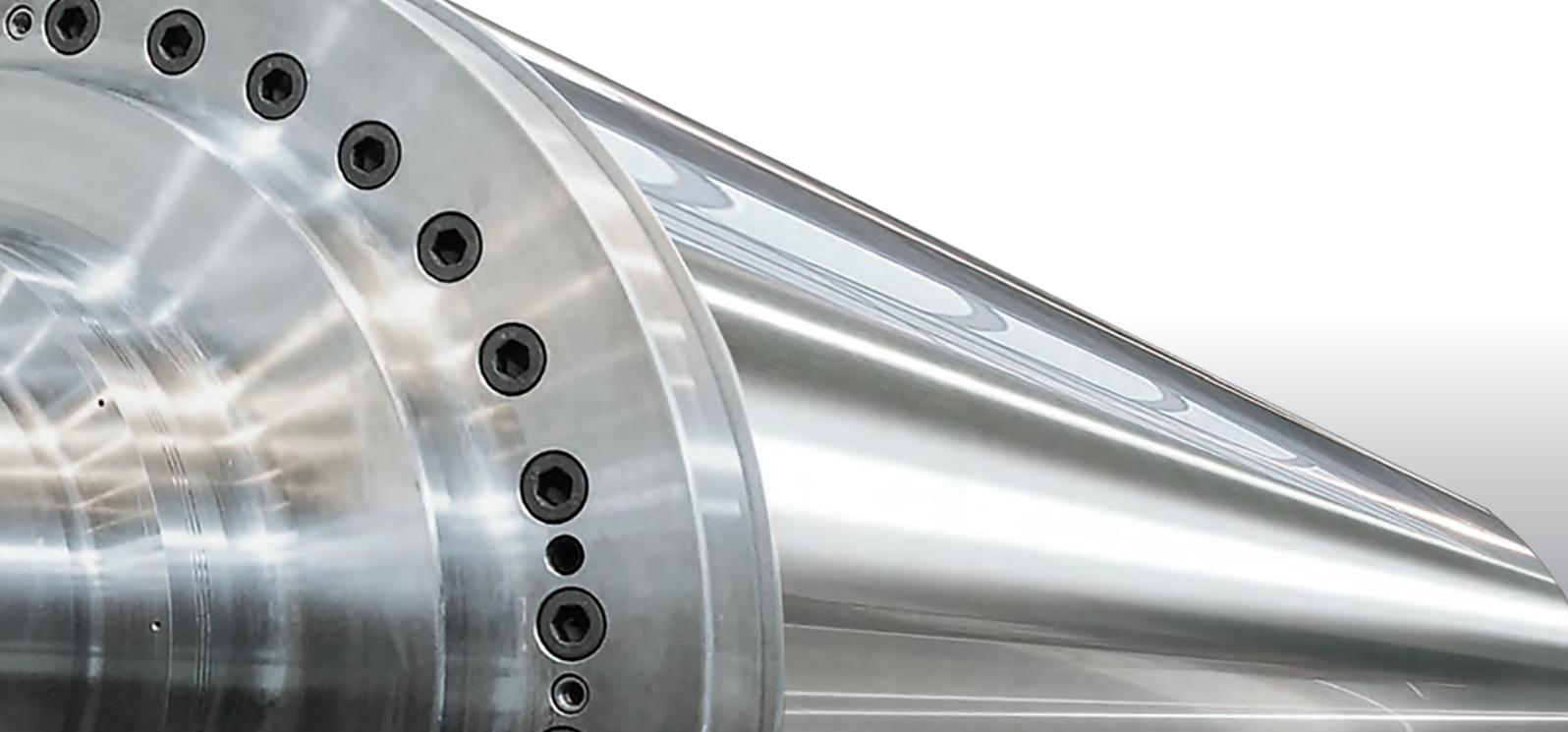
Do you want to grind cost-effectively? For an efficient grinding process, it is necessary to achieve the maximum metal removal rate when rough grinding. An efficient grinding process is only possible if the hardness, binding and abrasive grain of the grinding tools are optimally adapted to the machine and material.

Grind without striae and scratches (surface)

The appearance and roughness of the roller surface are fundamental requirements when grinding on most work rollers. Incorrect machine parameters and the use of unsuitable abrasive wheels can lead to an inhomogeneous look and scratches on the rollers. Burn areas, striae and grinding marks at the end of the grinding process mean that the roller must be reground.

Staying cool (grinding temperature)

The coolant has a major influence on the grinding process. The type of coolant, the insertion position and volume and the coolant pressure have an impact on the result and the grinding process.



Saving and ensuring quality

(reproducibility)

The grinding behaviour of the grinding tool should be reproducible over the whole service life and the quality, even through different batches, should remain constant. This saves you from constantly having to adjust the grinding parameters.

Dressing less

(dressing intervals)

In order for the aggressiveness and radial runout to be retained, abrasive wheels must be dressed at particular intervals. However, each dressing process costs time and money. The aim is to prolong the dressing intervals and to keep the dressing material removal as slight as possible each time.





OUR SOLUTIONS

THELEICO is one of Europe's leading manufacturers of abrasive wheels for the roller industry. Thanks to our application-oriented technical know-how and close collaboration with renowned machine and roller manufacturers, we have developed into the recognised specialist on the global market. As a specialist, we provide you with our expertise... So that you not only perform your precision-grinding task well, but also economically.

Targeted advice – we take a good, close look

In order to guarantee that the best product for your specific application is selected and developed, it is essential to accurately evaluate all the grinding process' defining parameters. Just as much emphasis is placed upon technical top performance here as upon cost-effectiveness and process reliability.

We collect your process data and help you to select the best abrasive wheel for your application. Rely on our specialists and on more than 90 years of experience in the manufacturing of abrasive wheels.

Custom-made abrasive wheels for your special requirements

Whether it's a sintered corundum version, another special grain size or CBN discs for high circumferential speeds of up to 125 m/s, ceramic-bonded, artificial-resin-bonded (with and without grinding-active additives), geometrically defined pore space or an abrasive wheel formula which can absorb the heat that develops from the grinding process.

Our extensive product portfolio also includes the solution for your applications.

Extensive range – short-notice custom production

In addition to the extensive THELEICO range, with a multitude of dimensions and specifications, we have at our disposal all the means to provide versatile and short-notice production of custom-made special products. We guarantee the best possible selection – with alternative suggestions!

For this, we use raw materials from renowned suppliers with whom we have cooperated and collaborated in product development for years and decades.

Quality throughout – from the raw material to the finished product to the on-site service

THELEICO stands for reliability and precision. This not only applies to our tools, but to all of our processes as well. High-quality raw materials, qualified and motivated employees and highly modern production and checking processes guarantee reliable reproducibility in the application. We will deliver your products to you flexibly and reliably.

WHY PROCESS OPTIMISATION IS SO IMPORTANT

Material removal volumes of 0.05 to 3 mm are usual when grinding rollers. Depending on the type and size of roller, the grinding process can take between 15 to 50 minutes. As a result, the costs for the abrasive wheels make up the smallest proportion of the overall costs. As such, it is necessary to improve the added value potential by using an abrasive wheel that has been optimised for the application. This can substantially reduce the overall process costs:

Application examples of THELEICO roller grinding discs:

HOTBAND

Material	Chrome-plated roller
Roll diameter	690 mm
Roll length	1,950 mm

COLDBAND

Material	Forged steel 5% Cr
Roll diameter	654 mm
Roll length	2,100 mm

	Competitor	THELEICO
Product	XXX	128A 36-0 N 6 B
Metal removal rate	385 mm ³ s ⁻¹	532 mm ³ s ⁻¹
G-Faktor *	6.5	7.54

	Competitor	THELEICO
Product	XXX	40A 100-0 N 8 B
Effect. grinding time	17 min.	14 min.
Surface roughness RA (End)	0.3–0.9 µm	0.25–0.8 µm
Optical evaluation	good	very good

*G-factor (volume factor): Material removal of roller / wear of disc
 Values dependent on the respective specific application parameters

If the surface quality of a finished roller is considered as defined, the metal removal rate of the abrasive wheel forms the cost-effectiveness of the grinding process, as this value has a direct influence on the grinding time. The wear-and-tear of the abrasive wheel also affects the costs. Both the costs for the initial procurement of the tools and the times for the tool changes are incorporated into the economic analysis. We are happy to help you select the best abrasive wheel. **This will enable you to reduce your process costs.**

A RANGE FOR SUCCESS

ABRASIVE QUALITIES, AREAS OF APPLICATION AND MODELS.

	Workpiece	Material	Abrasive wheel model*				Product example
	Roller type	Application	Grain type and size	Hardness	Structure	Bonding	Wheel name
Hot rolling	Work roller	HSS rollers	Sintered corundum, 30–46	L–O	5–7	Artificial resin	228A 46-1 M 7 B 9220
		Cr rollers	Sintered corundum, 30–46	L–O	5–7	Artificial resin	228A 46-1 M 7 B 9220
		Indefinite cast iron	Sintered corundum, 30–46	L–O	5–7	Artificial resin	225A 30-9 O 5 B 9213
	Back-up roller	Forged steel	Sintered corundum, 30–46	M–O	4–6	Artificial resin	224A 36-9 O 4 B 9203
		Forged steel	High-grade corundum, 30–46	M–O	4–6	Artificial resin	40A 36-2 M 4 B 6190
		Cast iron rollers	Silicon carbide, 30–36	M–O	4–8	Artificial resin	87636-0 M 8 B 9201
Cold rolling	Work roller	HSS rollers	Sintered corundum, 46–100	L–N	4–8	Artificial resin	224A 46-9 L 8 B 9205
		HSS rollers	CBN, 91–126	L–N	10–12	Ceramic	4B91-M11 V300 A
		Cast iron 2–5% Cr	High-grade corundum, 46–100	L–N	4–8	Artificial resin	40A 100-0 n 8 B 9237
		Cast iron 2–5% Cr	Sintered corundum, 46–100	L–N	4–8	Artificial resin	224A 46-9 L 8 B 9205
	Back-up roller	Forged steel 2–8% Cr	High-grade corundum, 24–46	L–N	5–8	Artificial resin	40A 36-0 P 8 B 9230
		Cast iron rollers	Silicon carbide, 24–46	L–N	5–8	Artificial resin	87C 36-0 M 8 B 9201
Aluminium	Work roller	Rough grinding	High-grade corundum, 36–60	G–H	6–7	Ceramic	40A 46-3 H 7 V 7190
		Semi-finish grinding	High-grade corundum, 60–120	G–H	6–7	Ceramic	40A 100-9 G 7 V 6200
		Finish grinding	High-grade corundum, 150–180	G–H	6–7	Ceramic	40A 180-0 G 6 V 6180
		Finishing	High-grade corundum, 200–400	N–O	4–6	Artificial resin	40A 320-0 O 5 B 9240
+	Rubber / PU	Hard-medium hard-soft	High-grade corundum, 40–80	G–I	10–15	Ceramic	47A 60-9 H 13 V 9190

* Explanations of the abrasive wheel types can be found on the website at www.theleico.de/en



THELEICO EXCELLENCE

As a specialist for grinding technology, THELEICO stands for safety, expertise and reliability. Our daily actions and our services are shaped by our promise to customers: "EXCELLENCE IN GRINDING".

EXCELLENT SAFETY

EXCELLENT COMPETENCE

EXCELLENT PROCESS

**Excellent safety –
for greater safety while fulfilling
the highest requirements**

To meet the highest requirements in your grinding processes, we guarantee you product safety and consistent quality in the use of our products and services.

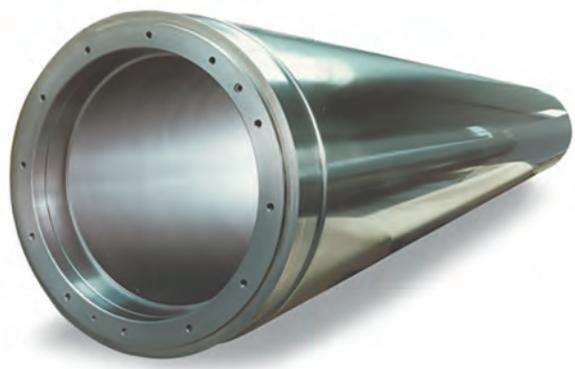
**Excellent competence –
for custom-made solutions to fulfil
your grinding requirements**

Every day we make use of our great experience in grinding technology to develop innovative solutions for today, with the latest technology, and to develop and manufacture adapted products for your application.

**Excellent process –
for the greatest reliability, to ensure
reproducible product quality**

We guarantee detailed acceptance of your grinding process data to develop a custom-made grinding tool, in order to thus optimise your processing with our individual solutions and to reduce your process costs.

Benefit from our excellence!





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