

All Round Performance.

The complete Hermes programme
for centreless grinding



Hermes – a competent contact

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The Hermes Abrasives Group

The Hermes parent factory was founded in the Lurup district of Hamburg in 1927 and has remained the group's head office to this day.

Hermes now has over 13 production facilities and subsidiaries in 4 continents throughout the world and for decades, has been a world market leader in the production of abrasives.

The map of the world illustrates our presence and our commitment.



Head office, Germany



Hermes Austria



Hermes USA



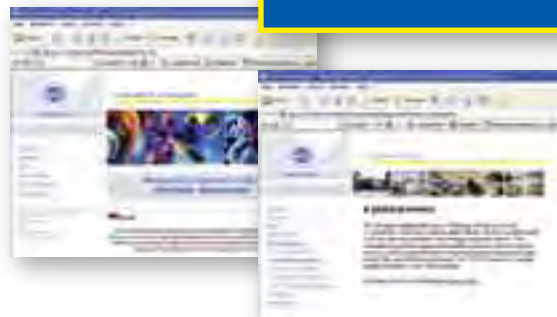
Hermes China



Hermes Australia

Why not visit our website?

www.hermes-abrasives.com



for grinding all over the world

For nature and the environment



Compliance with national and international laws and regulations is one of the most important principles of Hermes' environmental policy. Hermes was consequently the first European abrasives factory to be audited on the basis of voluntary certification.

The "Environmental protection" department at Hermes takes painstaking care to ensure that every business process saves natural resources. This makes protection of the environment a cornerstone of Hermes' commercial policy and a key component of our corporate responsibility.

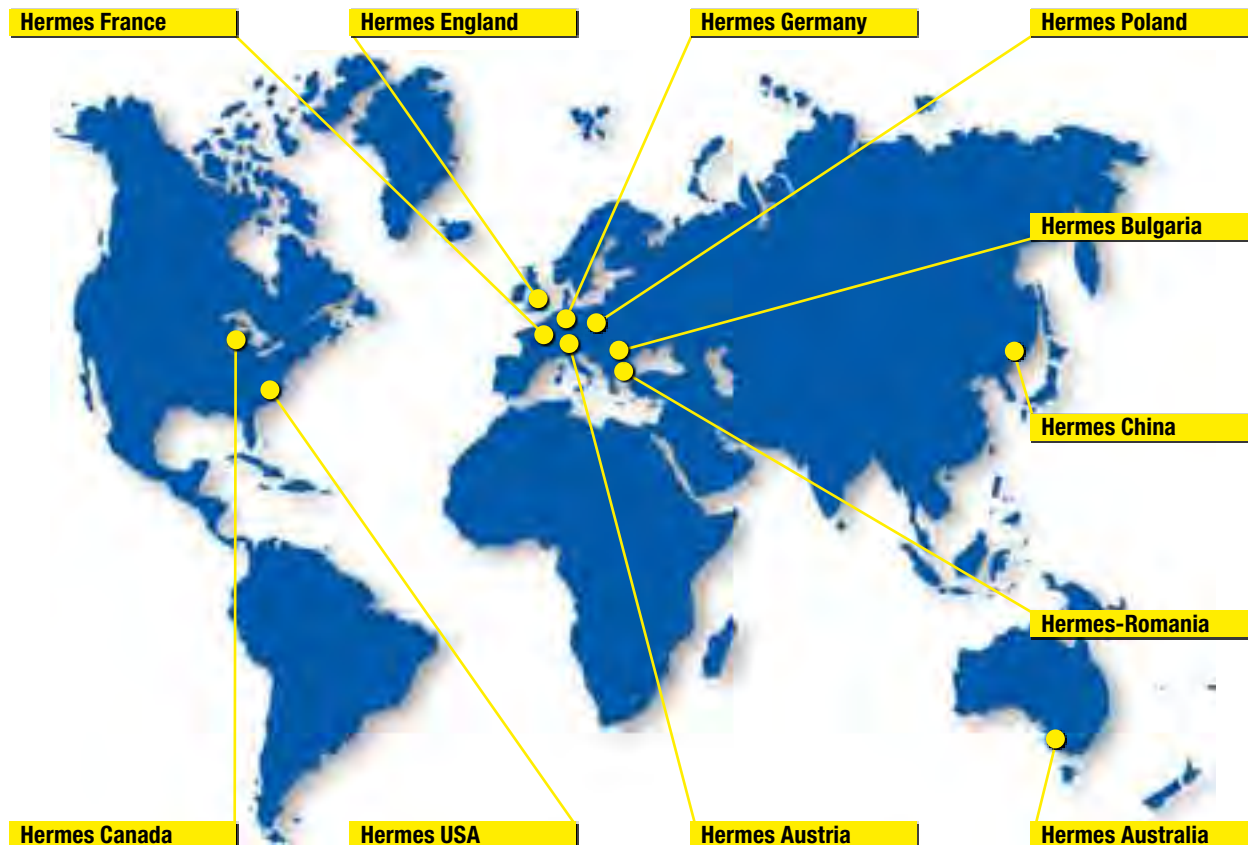
Quality – our trademark



On the one hand we owe a great deal to tradition, but on the other, we are pioneers in the development of innovative products; Hermes places enormous value on the production of high-quality abrasives to the latest state of the art.

To maintain and expand this high quality standard in future, the TÜV CERT testing body has awarded the Hermes Group the quality seal for satisfying the requirements of DIN EN ISO 9001.

Our customers – in other words you – can benefit greatly from this confidence.



High-performance abrasives for centreless grind



Centreless grinding machine

Centreless grinding

Cylindrical workpieces such as tubes, rods, pistons or rollers made of stainless steel, titanium, aluminium or special alloys are ground on centreless grinding machines.

The machining steps required for centreless grinding depend on the initial condition of workpieces, on processing and on the final quality desired. In addition to dry grinding, grinding is primarily performed "wet", generally under an emulsion. Grinding temperature is reduced in wet grinding, resulting in grinding which is gentle on the workpiece, increases the tool life of grinding belts and significantly reduces grinding dust and noise.

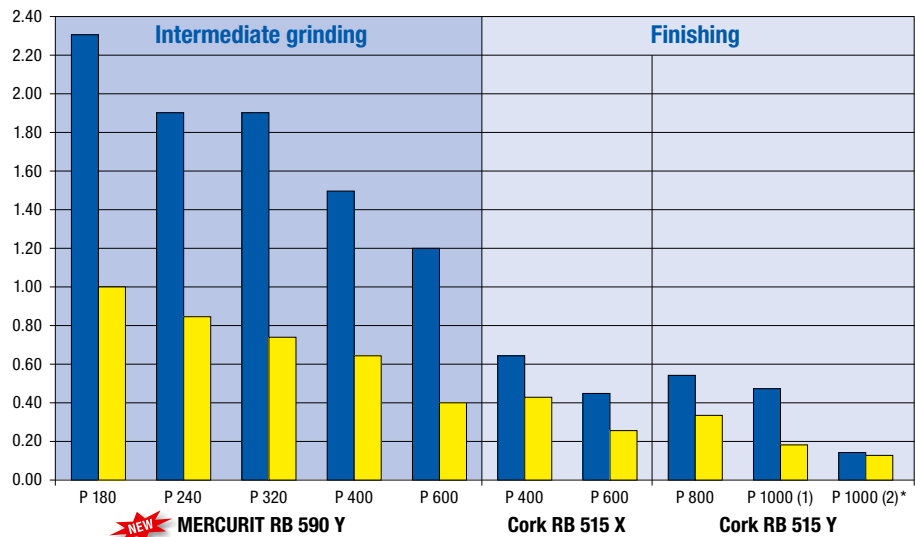
For centreless grinding, Hermes supplies high-performance quality abrasives for the complete process:

Initial grinding — Intermediate grinding — Finishing

They are characterized by the following product benefits:

- high stock removal rates
- long tool life
- constant roughness values
- consistent and in some cases extraordinary grinding patterns

Test results for stock removal/roughness values



NEW MERCURIT RB 590 Y

Cork RB 515 X

Cork RB 515 Y

■ Stock removal rate [g/100 pro 5 m²] ■ Ra [µm]

Test parameters

Abrasive belts	150 mm x 3500 mm (6" x 138")
v_c (cutting speed)	32 m/s
v_f (feed speed)	4 m/min (10° angle)
Cooling lubricant	Petrofer Isopal Alu-SW 4% (emulsion)
Contact wheel	150 x 400 mm, rubber 60° Shore A 1:1
Tubes	40 x 1000 x 1 mm, stainless steel 1.4301 (AISI 304) 40 tubes = 40 m length = 5 m² tube surface area
Current consumption	MERCURIT RB 590 Y, P 180, P 240, P 320, P 400, P 600: 3 A Cork RB 515 X, P 400, P 600 / Cork RB 515 Y, P 800, P 1000 (1): 2 A * Cork RB 515 Y, P 1000 (2): 1 A (50%) and $v_c = 16$ m/s (50%)

ing

Initial grinding

During initial grinding, rough surface structures, weld seams or faults in the workpiece surface are ground. These faults may be due to production or transport. Possible faults include scratches, scoring, cracks, markings, oxidation, geometrical deformation or contamination.

Coarse grit sizes (24 to 60) are primarily used in initial grinding. The primary characteristics of Hermes belts for initial grinding are a high degree of grain sharpness and high stock removal rates. All products are equipped with highly durable backings and can be used in both dry and wet grinding applications (resistant to water, emulsion and oil).

Product structure

Type	RB 377 YX
Abrasive grain	Aluminium oxide
Bonding	Resin, red
Backing	YX-cloth
Grit range	+ 36, + 40, + 60 to + 320, + 400, + 500

Type	RB 484 44 Z
Abrasive grain	Zirconia alumina
Bonding	Resin, blue
Backing	Z-cloth
Grit range	+ 24, + 36 to + 120

Type	RB 486 44 Z	• High-performance zirconia alumina grinding belt
Abrasive grain	Zirconia alumina	• Very heavy, stiff polyester backing
Bonding	Resin-Procut, blue	
Backing	Z-cloth	
Grit range	+ 36 to + 80	

Type	CR 454 Z	• High-performance ceramic grain grinding belt
Abrasive grain	Ceramic	• Very heavy, stiff polyester backing
Bonding	Resin, green	
Backing	Z-cloth	
Grit range	+ 40, + 60, + 80, + 120	

Type	CR 456 Z	• High-performance ceramic grain grinding belt coated with active ingredient to prevent workpiece surface overheating
Abrasive grain	Ceramic	• Very heavy, stiff polyester backing
Bonding	Resin-Procut, green	• Particularly suitable for dry grinding
Backing	Z-cloth	
Grit range	+ 36 to + 120	

The benefits for you

- Durable standard product
- Polyester/cotton mix cloth backing can withstand severe strain

- High-performance zirconia alumina grinding belt
- Very heavy, stiff polyester backing

- High-performance zirconia alumina grinding belt with active ingredient coating to prevent surface overheating
- Very heavy, stiff polyester backing
- Particularly suitable for dry grinding

- High-performance ceramic grain grinding belt
- Very heavy, stiff polyester backing

- High-performance ceramic grain grinding belt coated with active ingredient to prevent workpiece surface overheating
- Very heavy, stiff polyester backing
- Particularly suitable for dry grinding



RB 377 YX



RB 486 44 Z



CR 456 Z

Pure high performance – MERCURIT and HERMESIT



Intermediate grinding with high-performance grinding belts

Initial grinding produces flawless surface structures on the workpiece. In intermediate grinding, the initially ground surfaces are refined further using grinding belts in the medium to fine grit range (80 to 1200).

Hermes can supply you with special high-performance abrasives for intermediate grinding. **MERCURIT** and **HERMESIT** high-performance grinding belts. The special three-dimensional structure of the abrasive grain guarantees you extraordinary grinding benefits:

- **consistent surface structure and roughness values, throughout the tool life**
- **homogeneous surface structures** such as those required for good corrosion resistance, for example
- **3 to 5 times longer tool life compared to conventional grinding belts** reduces grinding belt change time and machine down time as well as the costs of disposing of used grinding belts
➔ improved economy of your grinding process
- **reduced grinding temperatures**

The “MERCURIT” principle

NEW



MERCURIT conglomerate

Hermes MERCURIT grinding belts have a compact grain conglomerate structure. A large number of grains form the conglomerate in a bond mixture. During grinding, new layers of grain are continuously exposed, giving MERCURIT an extremely long tool life.

On MERCURIT RB 590 Y grinding belts, the conglomerate is incorporated in a hard bond on a heavy cloth backing and was developed especially for centreless grinding (wet applications) at a high grinding pressure.

The “HERMESIT” principle



HERMESIT
hollow sphere of grain

Hermes HERMESIT grinding belts have special hollow spheres coated with grain which break down evenly during grinding, but simultaneously keep exposing new abrasive grain.

HERMESIT grinding belts produce an extraordinary grinding pattern, the so-called “HERMESIT finish”. We recommend use on centreless grinding machines at low (HERMESIT RB 545 X) to medium grinding pressures (HERMESIT 535 Y or RB 545 Y) .

These abrasives can be used universally in dry and wet grinding (resistant to water, emulsion and oil).

ESIT grinding belts for greater economy

Product structure		The benefits for you
Type	MERCURIT RB 590 Y	<ul style="list-style-type: none"> • Special development for centreless grinding (wet applications) • High-performance grinding belt for grinding at a high grinding pressure
Abrasive grain	Aluminium oxide (conglomerate)	
Bonding	Resin	
Backing	Y-Polyester-cloth	
Grit range	P 120, P 180, P 240, P 320, P 400, P 600	
Type	HERMESIT RB 535 Y	<ul style="list-style-type: none"> • Suitable for producing the bright matt HERMESIT finish at medium grinding pressures • Can be universally used for dry and wet grinding (resistant to water, emulsion and oil)
Abrasive grain	Aluminium oxide (hollow sphere of grain)	
Bonding	Resin	
Grit range	P 60 - P 180, P 240, P 320, P 400, P 600	
Type	HERMESIT RB 545 Y	<ul style="list-style-type: none"> • Suitable for producing the bright HERMESIT finish at medium grinding pressures • Can be universally used for dry and wet grinding (resistant to water, emulsion and oil)
Abrasive grain	Silicon carbide (hollow sphere of grain)	
Bonding	Resin	
Grit range	P 40, P 60 - P 120, P 180, P 280	
Type	HERMESIT RB 545 X	<ul style="list-style-type: none"> • Suitable for producing the bright HERMESIT finish at low grinding pressures • Can be universally used for dry and wet grinding (resistant to water, emulsion and oil)
Abrasive grain	Silicon carbide (hollow sphere of grain)	
Bonding	Resin	
Grit range	P 150 - P 320, P 400, P 600, P 800	


NEW


MERCURIT RB 590 Y



HERMESIT RB 545 Y

Application engineering



A bright performance – finishing with cork poli



Cork polishing belt



RB 515 X

Finishing

The finest possible surfaces with defined roughness values are a prerequisite for producing satinized surfaces, high-polish or so-called “mirror finishes”.

Defined surface qualities are also required for certain applications or downstream steps such as galvanizing or anodizing, for example.

Hermes supplies a variety of quality abrasives for this grinding step: **cork polishing belts**, **webrax abrasive web belts** or **abrasive web convoluted wheels** and **microlite wheels**.

Cork polishing belts

Product description

Cork polishing belts allow “cushioned” grinding and produce a polishing effect as a result of the elastic particles of cork. These products are characterized by long tool life and can be used universally in dry and wet grinding (resistant to water, emulsion and oil).

Product structure

Type	RB 515 X
Abrasive grain	Cork/Silicon carbide
Bonding	Resin, black
Backing	X-cloth
Grit range	P 150, P 220, P 280, P 400, P 600 - P 1000

The benefits for you

- Cork polishing belt to produce high-polish or “mirror-finish” surface with fine-structured grinding

Type	RB 515 Y
Abrasive grain	Cork/Silicon carbide
Bonding	Resin, black
Backing	Y-cloth
Grit range	P 400, P 800 - P 1200

- Cork polishing belt to produce high-polish or “mirror-finish” surface with fine-structured grinding
- Particularly tear-resistant backing, even at higher belt tensions

Type	RB 525 X
Abrasive grain	Cork/Aluminium oxide
Bonding	Resin, brown
Backing	X-cloth
Grit range	P 220, P 280, P 400

- Cork polishing belt to produce bright matt surfaces with fine-structured grinding

Type	RB 555 X
Abrasive grain	Cork (kein Abrasive grain)
Bonding	Resin, yellowish-brown
Backing	X-cloth

- Cork polishing belt without abrasive grain to produce high-polish or “mirror-finish” surfaces

grinding belts and **webrax** abrasive web tools

webrax abrasive web belts

Product description

webrax abrasive web belts are manufactured from special fibre web in combination with a cloth backing. The grain is firmly anchored in the web by a bond and is correspondingly durable. These abrasives can be used universally in dry and wet grinding (resistant to water, emulsion and oil).

Product structure

Type	webrax-AN 701 50
Abrasive grain	Aluminium oxide / Silicon carbide
Bonding	Resin
Backing	Abrasive web, reinforced with cloth
Grit range	Aluminium oxide + 80 (brown), + 100 (red), + 180 (red/blue), + 280 (blue) Silicon carbide + 800 (grey)

The benefits for you

- Compact, intensive-grinding abrasive web
- For structural grinding of stainless steel coils and sheets
- Aluminium oxide grain produces bright matt stainless steel surfaces



webrax-AN 701 50



webrax-PN 721

Type	webrax-PN 721
Abrasive grain	ohne Abrasive grain
Bonding	Resin, yellow
Backing	Abrasive web, reinforced with cloth

- For cleaning and polishing stainless steel surfaces

webrax abrasive web convoluted wheels

Product description

The high interlayer strength of **webrax** abrasive web convoluted wheels produces an optimum web finish. These abrasives can be used universally in dry and wet grinding (resistant to water, emulsion and oil).

Product structure

Type	webrax-OA 710 GWS
Abrasive grain	Aluminium oxide
Bonding	Resin
Backing	Abrasive web
Grit range	+ 80 to + 120, + 180, + 280

The benefits for you

- Aluminium oxide grain produces bright matt surfaces



webrax-OA 710 GWS

Type	webrax-OS 715 GWS
Abrasive grain	Silicon carbide
Bonding	Resin
Backing	Abrasive web
Grit range	+ 100, + 120, + 180 + 220, + 280, + 500, + 800

- Silicon carbide grain produces bright surfaces and a finer grinding pattern compared to aluminium abrasive grain

“Mirror-finishing” — with Hermes microlite wheels



microlite wheels

Product description

Hermes microlite wheels are elastic and their outstanding adaptability makes them especially suitable for fine-grinding whilst meeting the most stringent standards with regard to brightness and fineness of workpiece surfaces (“mirror-finish”).

A polyurethane-based bond incorporating silicon carbide grain is foamed by special processes to form **microlite** wheels of varying elasticity. In many cases, the use of **microlite** wheels when fine-grinding allows working steps to be saved and increases the productivity and economy of your process.

In addition to use in dry-grinding, **microlite** wheels are resistant to water, emulsion and oil and can therefore also be used in wet grinding.

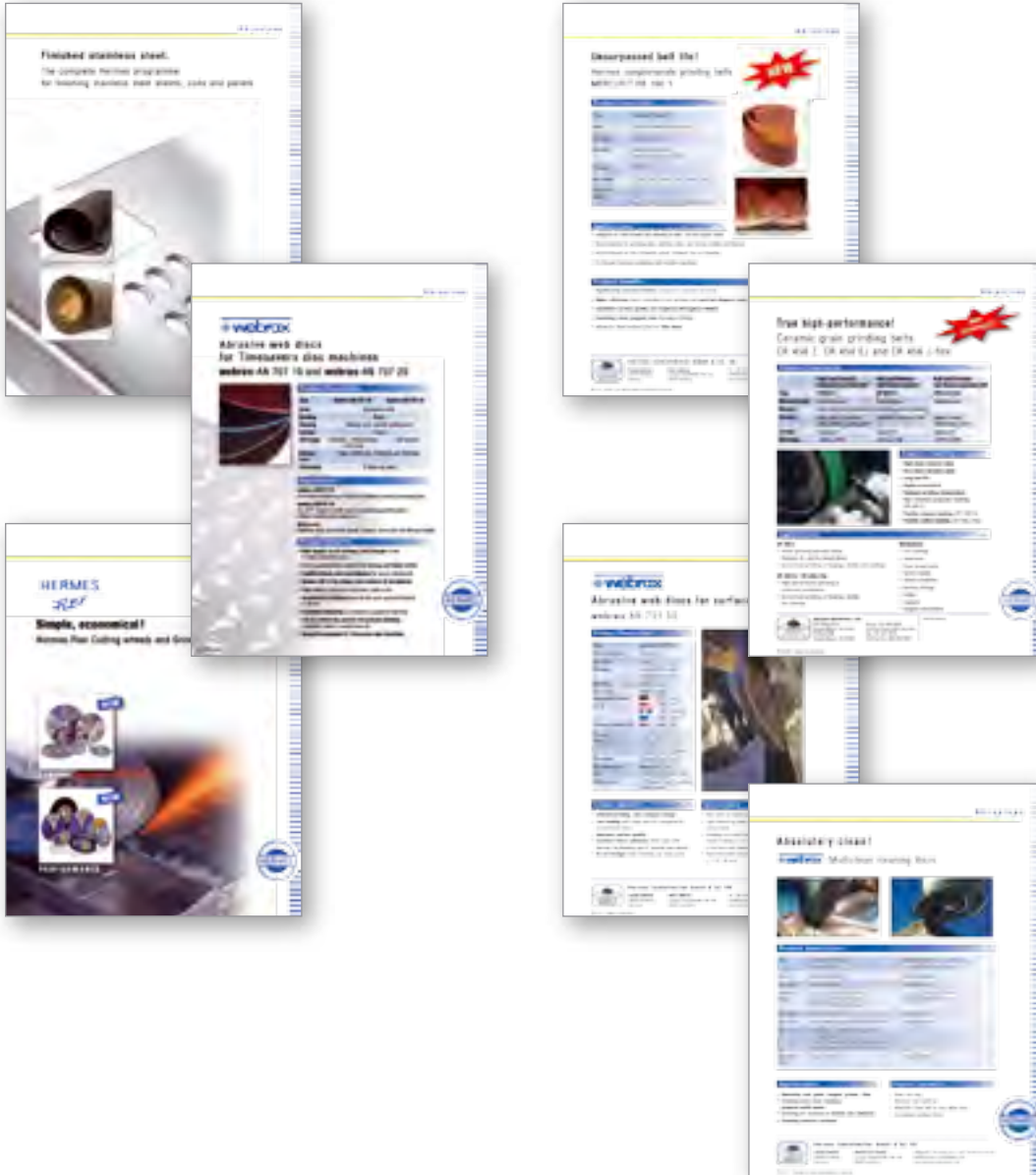
Product structure

Type	microlite-wheel
Abrasive grain	Silicon carbide
Bonding	Polyurethane of varying elasticity (BU10, very soft, to BU70, very hard)
Hardness	30 - 100° Shore A
Grit range	F 16 - F 600
External diameter	40 mm - 400 mm
Width	10 mm - 150 mm (Width > 150 mm available on request)

The benefits for you

- Particularly suitable for fine finishing, deburring, cleaning and descaling of a wide variety of materials including non-ferrous metal, high-temperature steel, stainless steel, cast iron or hardened metal

**For more information from Hermes
about metalworking:**



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