

DiaCut – DiaPress

Punching and Forming Oil



Human Technology
for man, environment
and machines

HUTECH



Philipp and Martin Storr • Managing Directors

Your partner for cooling lubricants

oelheld is a medium-sized company, which has more than 130 years of tradition and experience. Since the foundation in 1887 by Carl Christian Held, oelheld has become an established specialist for lubricants. Partnerships, research, and human resources technology have grown as a valuable tradition of which we are proud of.

Numerous customers and machine manufacturers along with national and international universities have partnered with us to develop high quality lubricants. Through this cooperation we are able to focus intensively on meeting and adjusting to specific requirements on a wide range of different manufacturing processes. Our laboratories are equipped with state-of-the-art analytical equipment and numerous application testing systems that guarantee today's demanding requirements, and many of tomorrow's ever changing new standards.

„Innovative product development, strengthened by continuous quality control and comprehensive customer service, is the key to the success of our products.“



Human Technology

Innovations for man, environment and machines

Hutec is our main focus in the development and production of our products. It is also our mission statement in our use of resources and at oelheld always presence.

What does this mean?

- REACH requirements are fulfilled
- Skin reviews and approvals available for most products
- Low emission and aromatics free / low aromatic products
- Products free of heavy metal
- State-of-the-art production facilities
- Environmentally friendly production processes
- Products are tested for compatibility with machine components
- Sustainability in the selection of raw materials
- Environmentally friendly and resource-saving products





Punching and Forming Oil

The products of our DiaCut series are heavy duty lubricants for every level of difficulty which are free from chlorine and heavy metals.

Selected base oils and additives are generating mechanically and thermally extreme stable lubricating films with a high pressure resistance for the ideal material flow and less tool wear. Adapted for the requirements of your punching process our products offer you the best wetting and separating properties for punching of thin aluminium sheets or fine cutting works with high alloy steels.

Forming oils of our DiaPress series are made of base oils with low aromatic content. They are free from chlorine, heavy metal and oil mist, occupy a high aging resistance and a good viscosity-temperature behavior. By using physiological harmless high-performance extreme-pressure additives we reach the highest pressure resistance even at strong thermal heavy duty. Forming oils of our DiaPress Series are surface-active, adhesive and are showing good wetting and release properties. They are easily sprayable and pumpable. Our DiaPress series can be used in all forming processes. Different viscosities allow for an optimal adaption to existing spray and pump requirements. DiaPress can be used for all cold formed steels but not for non-ferrous metal.



Benefits

Our broad punching and forming program offers many advantages:

- Free from chlorine and heavy metals
- Keeps work pieces residue free
- Can be welded without prior cleaning
- Ash-free evaporation during heat treatment
- Easy to wash off
- Spray-able, electrostatic application is also possible
- Suitable for a variety of materials or alloys
- Optimal wetting and adhesion for multi-stage tools
- Offers corrosion protection
- Cost savings through process optimization
- The ideal product for every application

Test it!

Our punching and forming program

Product Name	Density at 15 °C kg/m ³	Flash point °C	Kin. Visk. 40°C mm ² /s	Material	Application
DiaCut FMS 125	0,76	56	1,2	non-ferrous, steel, aluminum	Extremely thin punching oil that evaporates without leaving any residue within a very short period of time.
DiaCut FD	0,77	56	1,3	non-ferrous, stainless steel, steel, aluminum	Extremely thin punching oil that evaporates without leaving any residue within a very short period of time.
DiaCut FBB 15	0,78	63	1,5	non-ferrous, stainless steel, steel, aluminum	Heavy duty punching oil with high pressure additives. Low evaporation residue.
DiaCut CP 5	0,80	56	1,7	non-ferrous, stainless steel, steel, aluminum	Low-residue punching and forming oil which, among other things, offers increased temporary corrosion protection.
DiaCut CP 1	0,78	56	1,8	non-ferrous, stainless steel, steel, aluminum	Very thin punching oil of highest purity. Evaporates almost residue-free.
DiaCut CP 6	0,80	56	1,8	stainless steel, steel, aluminum	Low-residue punching and forming oil which, among other things, offers increased temporary corrosion protection. Especially suitable for chrome-nickel steel.
DiaCut FAA 21	0,79	63	2,1	non-ferrous, stainless steel, steel, aluminum	High-performance punching and forming oil, especially for the production of air conditioning components.
DiaCut OEGR	0,80	63	2,7	stainless steel, steel, aluminum	Low-viscosity high-performance punching oil which is also suitable for light deep-drawing and forming operations.
DiaCut NCL	0,80	63	3,4	non-ferrous, stainless steel, steel, aluminum	Low-viscosity high-performance stamping oil which is also suitable for light deep-drawing and forming operations.
DiaCut FMB 600	0,86	63	6,1	non-ferrous, stainless steel, steel, aluminum	Punching oil for demanding punching processes that require partial self-evaporation. It is also suitable for medium-heavy deep-drawing and forming operations.

Our punching and forming program

Product Name	Density at 15 °C kg/m ³	Flash point °C	Kin. Visk. 40°C mm ² /s	Material	Application
DiaCut VCE	0,87	63	17	stainless steel, steel, aluminum	High-performance punching and forming oil for demanding parts up to 5 mm material thickness. It has good adhesion and offers temporary corrosion protection.
DiaPress MFP	0,94	>160	32	non-ferrous, stainless steel, steel, aluminum	Forming oil for demanding jobs. Solid lubricants are included to improve the compressive strength.
DiaPress LCI 3200	0,88	>160	32	stainless steel, steel, aluminum	Special forming oil for rotary swaging of rods, pipes and wires.
DiaPress HAS 4300	0,86	> 100	43	non-ferrous, aluminum	Forming and punching oil with excellent adhesion which evaporates residue-free after heat treatment.
DiaCut VSD 46	0,93	>160	46	stainless steel, steel, aluminum	Highly-additive punching and forming oil for demanding punching, deep-drawing and impact extrusion operations.
DiaCut VSS 76	0,91	>180	76	stainless steel, steel, aluminum	Universal micro blanking, punching and forming oil for highest requirements up to 8 mm material thickness. Also ideal for deep drawing and bending.
DiaCut VSG 511	0,91	>200	140	stainless steel, steel, aluminum	Highly-additive stamping and forming oil for medium to heavy stamping and forming operations.
DiaPress ZHO	1,04	>180	160	stainless steel, steel, aluminum	Heavy duty forming oil for machining very demanding parts with a high degree of forming.
DiaPress TZE	0,97	160	170	non-ferrous, stainless steel, steel, aluminum	Special deep-drawing oil with special high-pressure additives.
DiaCut MST 200	0,94	>180	180	stainless steel, steel, aluminum	Heavy duty punching and forming oil with special wetting agents that simplify cleaning. Suitable for medium to heavy forming processes.

Part of our customer base



Oetiker International
www.oetiker.com



Fritz Schiess AG
www.fschiess.com



voestalpine AG
www.voestalpine.com



Eugen Geyer GmbH
NE-Metallhalbzeuge
www.geyer-gmbh.de



Aluminium-Werke
Wutöschingen AG & Co.KG
www.aww.de

Application areas

- Electronic components
- Rotor plates
- Headlamp housings
- Auto body components
- Components for air conditioning systems and refrigeration technology
- Fine cutting of parts
- Hose clamps made of steel and stainless steel
- Aluminum pipe production
- Tube drawing, tube bending



Application examples



Customer requirements

- Clean cut
- No burr formation
- No residues
- Tool life
- Process reliability
- Dimensional accuracy
- Surface finish
- Optics
- No discolorations

Product recommendation:

DiaCut NCL

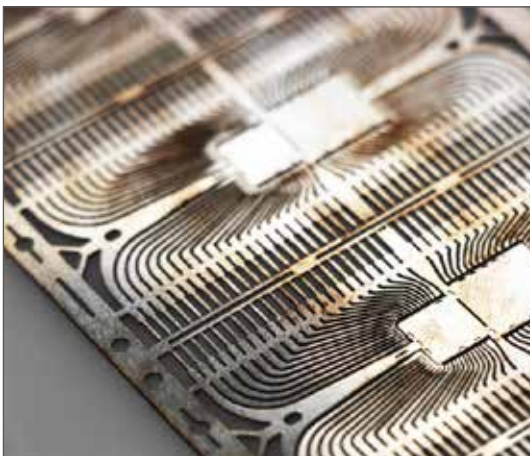


Customer requirements

- Various materials
- No additional cleaning
- Default speed
- Tool life
- Clean cut
- Reduction of burr formation
- No discolorations
- Surface finish
- Reduction of punching oil quantity

Product recommendation:

DiaCut NCL



Customer requirements

- Clean cut
- No burr formation
- No residues
- Tool life
- Process reliability
- Dimensional accuracy
- Surface finish
- Optics
- No discolorations
- No cleaning

Product recommendation:

DiaCut CP1

Application examples



Customer requirements

- Deep drawing: at height 125 mm
- Material thickness of 1.2 mm
- Material shrinkage
- Production reliability

Product recommendation:
DiaPress MFP



Customer requirements

- Deep drawing
- Clean cut
- No cracking
- Material shrinkage
- Mass production

Product recommendation:
DiaCut VSD 46



Customer requirements

- Punching with easy forming
- Dimensional accuracy
- Threaded bushing is pressed in

Product recommendation:
DiaCut FMB 600

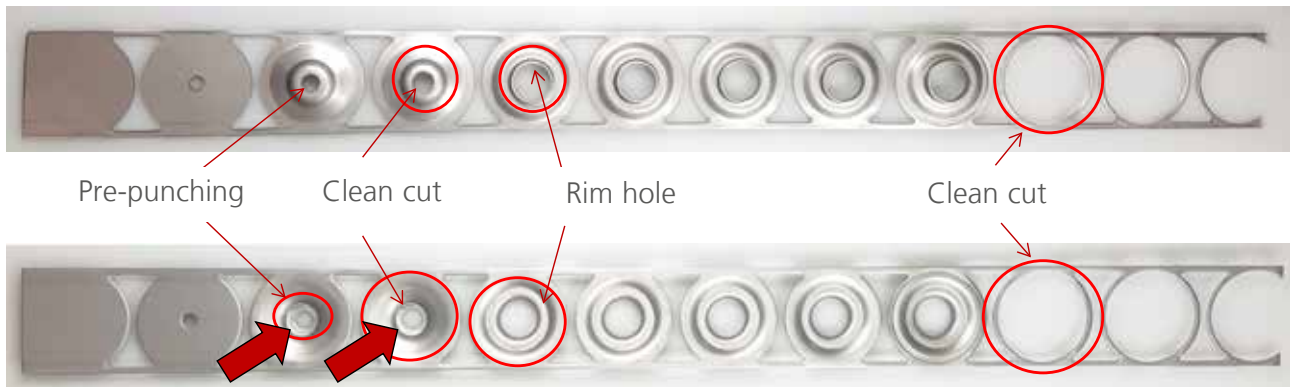


Customer requirements

- Clean cut
- No cracking
- Material shrinkage

Product recommendation:
DiaCut FMB 600

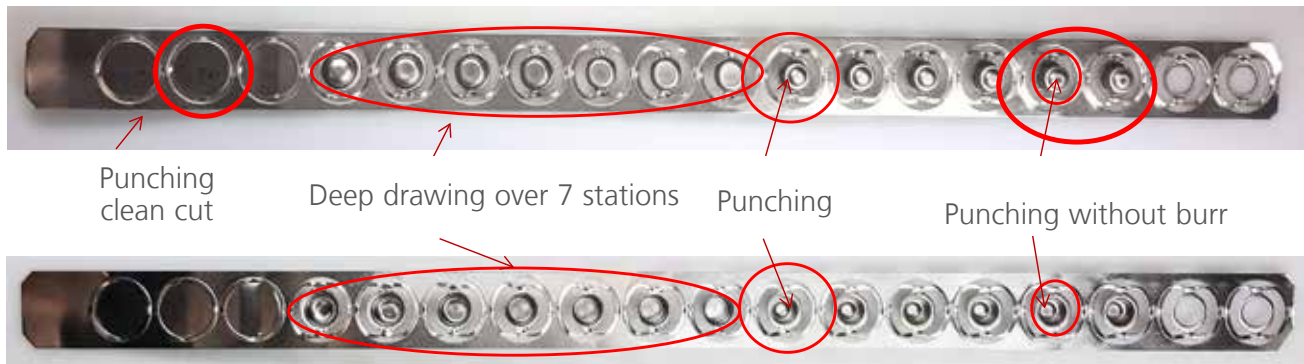
Application examples



Problem: Wall pre-punching for the required clean cut! > Punch wear!

No cracking!

Clean edges!



Punching without cub base fracture

Deep drawing without material loss



Product recommendation:

DiaCut NCL

Application examples

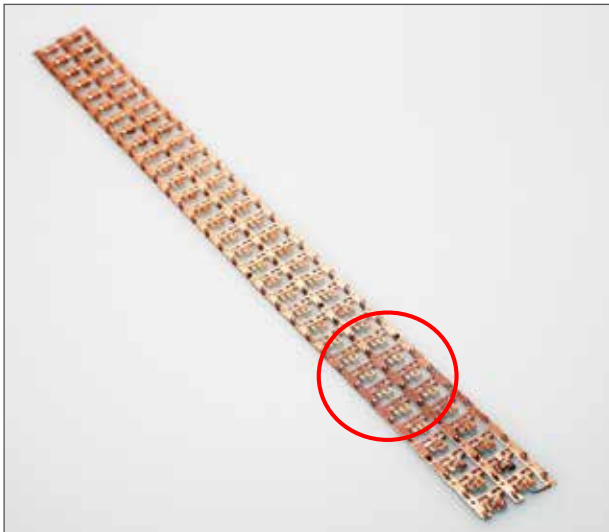


Customer requirements

- Edges are machined on both sides
- No cracking before thread cutting
- Clean cutting pattern without chipping the material
- Problem: Service life of the carbide inserts in the cutting tool!

Product recommendation:

DiaCut NCL



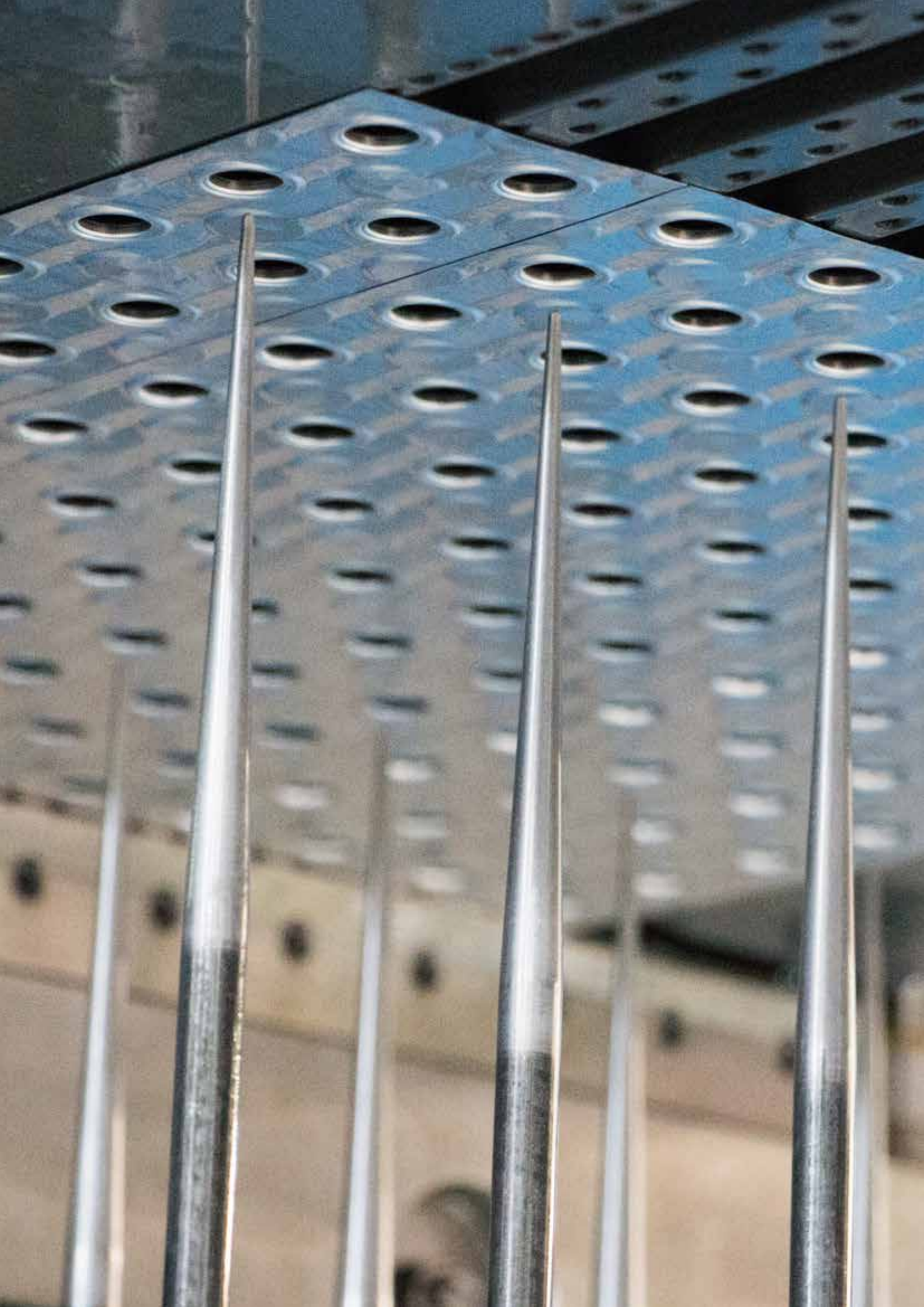
Customer requirements

- No cleaning
- Fine punching
- No burr formation
- Clean cutting pattern
- No residues
- No built-up cutting edges

Product recommendation:

DiaCut FD

Each punching and forming operation has different requirements for a processing material and should be discussed with our specialists in order to optimize your process!





Service analytics and technical advice for your all-round service

- We accompany you right from the start with our technical service on site and our service analysis.
- With us each customer has a direct technical service contact person, who provides advice and support.

The combination of service analytics and technical service in particular offers our customers added value and the security of receiving the appropriate service for the product.

Our service analytics offer a wide range of methods and state-of-the-art analytical instruments, which are used specifically for the requirements of our customers. With this know-how we can provide assistance in troubleshooting and optimize production processes. Employees in these areas take part in training courses and exchange knowledge with each other. This systematic transfer of knowledge ensures that know-how continues to grow and plays an important role in future product developments.

Contact us to learn more about our role for future service!

Process optimization

You want your machine to be more efficient?

1



Contact oelheld

2



First analysis on site by an expert

3



Detailed consultation and proposal

6



Purchase

5



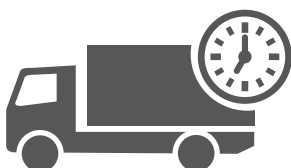
Optimal laboratory analyses

4



Testing phase (if applicable)

7



Fast delivery

8



Regular checks by your oelheld contact

9



Seminars

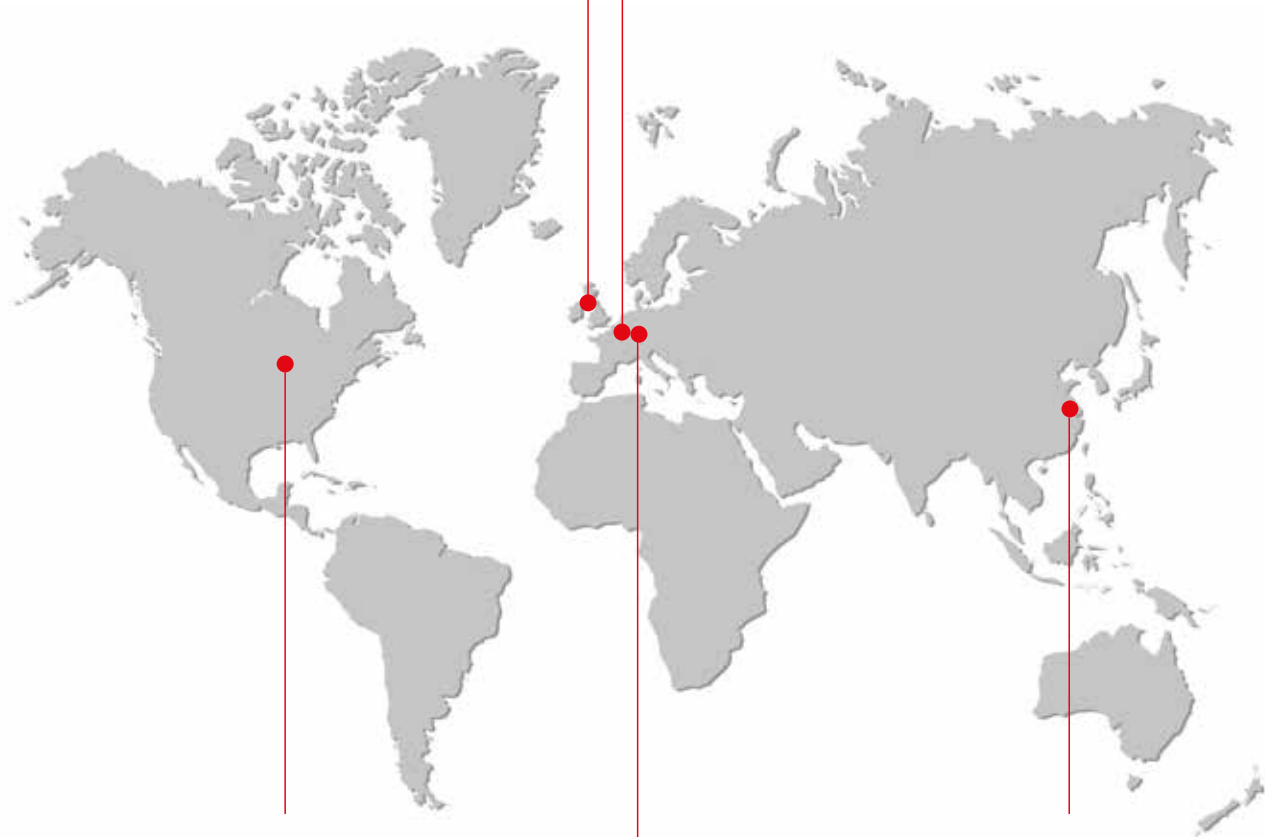
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