



Cutting and Grinding Oils

Innovative solutions for highest efficiency

BECHEM is the specialist in the field of cutting and non cutting metal working operations.

BECHEM develops, produces and monitors the application of metal working agents for most demanding machining operations such as broaching, deep drilling, cold heading or wire drawing, as well as multipurpose cutting oils and bio stable water miscible coolants for extreme requirements.

Regular exchange of experience and close cooperation between the group members greatly enhance each sector's individual R + D, which is above all designed to improve performance, help protect our environment and to increase efficiency.

Production underlies BECHEM's principle of quality first, which applies upon receipt of the raw materials: they are carefully checked, selected and, once they have been released for

production, they will be monitored at any single phase of production.

It is BECHEM's philosophy not just to recommend a suitable product but to offer individual solutions including professional assistance and advice, laboratory service, maintenance, environmental protection and information on how to correctly dispose waste emulsions. Efficient service and prompt supplies are self-evident.

Neat metalworking oils

Neat metalworking oils are optimized mixtures of mineral oils and additives which have especially been developed for high-performance metalworking processes. All BECHEM metalworking oils are free from organic chlorine.

When developing new coolants BECHEM puts main emphasis on:

- Highest performance
- Environmental protection
- Health and safety requirements

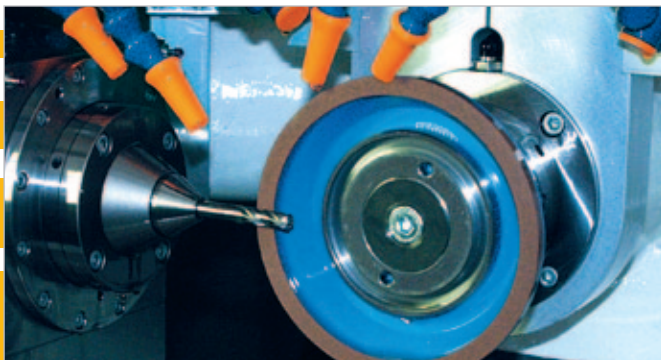
BECHEM neat metalworking oils are based on:

- Selected mineral oil fractions with very narrow boiling ranges
- Highly purified, almost PCA-free, base fluids and additives
- Low-odour and almost mist free base oils

Long experience in the field and intensive R + D helped us to translate the specific requirements of the market into practice and find the key to alternative solutions:

BECHEM additive-design means:

- Development of modern high-performance substances
- Intelligent combination of highly efficient ingredients
- Solutions specifically tailored to customers' requirements



Finishing		BERUGRIND – SFO- und HNO-series	
Grinding	SFO 107 HC	$V_{40} = 7 \text{ mm}^2/\text{s}$ ¹⁾	Hard metal grinding
	SFO 110	$V_{40} = 10 \text{ mm}^2/\text{s}$	Tool grinding
	SFO 122	$V_{40} = 22 \text{ mm}^2/\text{s}$	Tool grinding
Honing	HNO 205	$V_{40} = 22 \text{ mm}^2/\text{s}$	Cylinder honing
General cutting		BERUCUT-series	
High-performance cutting oils for universal machining of steel and non-ferrous metals. Also suitable as hydraulic oils (fulfil DIN 51524-T2 and DIN 51517-T3).			
Turning, drilling	SCO 122	$V_{40} = 22 \text{ mm}^2/\text{s}$	Steel, non-ferrous metals
Turning, drilling, grinding	SCO 310	$V_{40} = 10 \text{ mm}^2/\text{s}$	Steel, precious steel
	SCO 322 HC	$V_{40} = 22 \text{ mm}^2/\text{s}$	Steel, precious steel
	SCO 332 HC	$V_{40} = 32 \text{ mm}^2/\text{s}$	Steel, precious steel, non-ferrous metals
Turning, drilling, milling	SCO 446 UWS ²⁾	$V_{40} = 46 \text{ mm}^2/\text{s}$	Steel, precious steel
Deep drilling		BERUCUT – TBO-series	
Deep drilling oils for most demanding cutting operations, not suitable for non-ferrous metals.			
Diameter < 2 mm	TBO 406	$V_{40} = 6 \text{ mm}^2/\text{s}$	Steel, precious steel
ELB-, BTA-process	TBO 515 (496)	$V_{40} = 15 \text{ mm}^2/\text{s}$	Steel, precious steel
ELB-, BTA-process	TBO 422	$V_{40} = 22 \text{ mm}^2/\text{s}$	Steel, precious steel
Broaching		BERUCUT – RMO-series	
A well balanced broaching oil system, based on broaching oil, hydraulic oil and additive package to always guarantee highest process reliability.			
Vertical broaching	RMO 822	$V_{40} = 22 \text{ mm}^2/\text{s}$	Internal-external profiles
	RMO 822 Package	$V_{40} = 16 \text{ mm}^2/\text{s}$	Internal-external profiles
	RMO TC 22	$V_{40} = 22 \text{ mm}^2/\text{s}$	Ball tracks
	RMO TC 18 Package	$V_{40} = 18 \text{ mm}^2/\text{s}$	Ball tracks
Helical broaching	RMO 35	$V_{40} = 35 \text{ mm}^2/\text{s}$	Gear cutting
Multipurpose oils		BERUFORM – HY-series	
High-performance multipurpose oils for most demanding cutting and forming operations. Suitable for hydraulic systems.			
	5022 HY	$V_{40} = 22 \text{ mm}^2/\text{s}$	
	5032 HY	$V_{40} = 32 \text{ mm}^2/\text{s}$	
	5046 HY	$V_{40} = 46 \text{ mm}^2/\text{s}$	
Spraylubes		Lubricants for minimum quantity lubrication: MMS	
	Spraylub A 21 EV	$V_{40} = 5 \text{ mm}^2/\text{s}$	Cutting operations without any residues
	Spraylub A 16	$V_{40} = 10 \text{ mm}^2/\text{s}$	Al-processing (alcohol)
	Spraylub A 20	$V_{40} = 22 \text{ mm}^2/\text{s}$	Al-processing (alcohol)
	Spraylub E 30	$V_{40} = 30 \text{ mm}^2/\text{s}$	Steel-processing (ester)
	ALUCUT 20 ZF	$V_{40} = 40 \text{ mm}^2/\text{s}$	High performance aluminium processing

¹⁾ V_{40} = Viscosity at 40°C, ²⁾UWS = ester-based lubricant

That'Special!

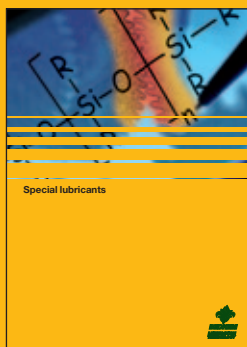
A tradition we are proud of since 1834. This is still today demonstrated by our trademark: the Rhus Flower. After permanent development, BECHEM is today a »Global Player«.

BECHEM special lubricants, industrial lubricants, metal working fluids and solutions for forming technology are based on our extensive experience in the development of special chemistry and on the latest tribologic knowledge. Our know-how with regard to friction, wear and lubrication always takes account of our customers' requirements for economical and ecological optimisation. We feel obliged to tradition and progress. That'Special!

Besides the headquarter in Hagen, BECHEM has two other production sites in Germany – in Mieste and Kierspe. In addition to that, our worldwide distribution network allows us to develop markets all over the world. With daughter companies in France, India, Switzerland and North East China, as well as Joint Ventures in the USA, South Africa, Sweden, Russia and South China, BECHEM shows its international presence.

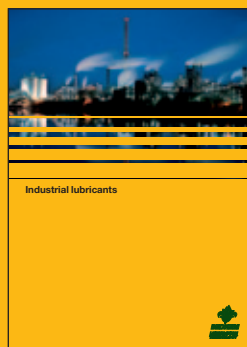
It is our target to supply our customers with high-quality products and to simultaneously meet the corresponding international standards. The quality of our products is guaranteed by our quality management system in accordance with the automotive standard ISO/TS 16949. All our production sites are systematically controlled by internal audits and regular external inspections by the certification association TÜV NORD CERT GmbH. Audits which are regularly carried out by our customers confirm the compliance with our high quality requirements.

Further information material is available either direct from us or at www.bechem.com



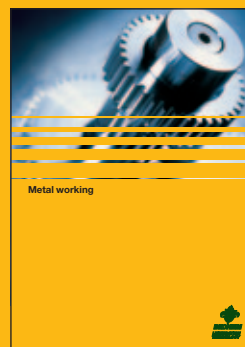
Special lubricants

- Low and high temperature lubricants
- Plastic lubrication
- Electrical contact lubricants
- Food grade lubricants
- Valve lubricants
- Anti-Friction Coatings



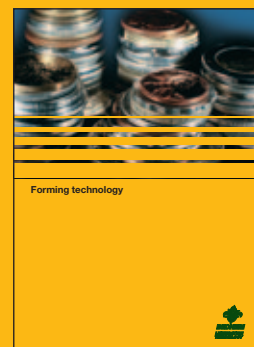
Industrial lubricants

- High performance multipurpose greases
- Heavy duty and high temperature lubricants
- Hydraulic oils
- Gear lubricants
- »Green« lubricants



Metal working

- Deep drawing/punching oils
- Coolant lubricants
- Cutting and grinding oils
- Deep drilling oils
- Corrosion protection oils
- Cleaning agents



Forming technology

- Wire drawing lubricants
- Cold forging oils
- Semi hot/hot forging
- Tube drawing lubricants
- Cold massive forming oils



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