



**Special Lubricants for the
Sheet Forming Industry**



About us

In 1834 Carl Bechem founded the first German oil factory. With daughter companies in France, India and Switzerland, production sites in Germany (Hagen, Mieste, Kierspe), China and India as well as Joint Ventures in the USA, South Africa, Sweden and China BECHEM belongs today to the “global players” in the field of tailor-made high-performance lubricants.

In addition, BECHEM has built up a tight network of competent sales partners and thus guarantees that the BECHEM lubricant solutions, accompanied by the required individual support, are available in about 60 countries all over the world.



Customized solutions for each application

New technologies in the sheet forming industry, increased cost pressure and strict environmental regulations require high responsibility in handling lubricants in use. Demanding metal alloys and increasing requirements with regard to the surface quality and residual contamination on the parts call for permanent reflection and further development of the forming lubricants. For BECHEM an intensive development work has always been of major importance in order to meet the prevailing market requirements and to be a competent contact for their customers and solve their problems. This is supported by active work in associations as well as by the participation in research projects of various institutes and universities.

BECHEM is a partner of the sheet forming industry who, together with the customer, considers and coordinates the complete process chain. Thus the BECHEM forming lubricants guarantee optimal process reliability and efficiency thanks to innovative product technologies and tailor-made lubricant solutions. True to the motto “Obliged to tradition – committed to the future”, BECHEM permanently deals with the future challenges in order to further maintain their leading market position and to guarantee the BECHEM customers competitive advantages. After mutual detailed examination we are developing a solution together with you in order to recommend a process-optimized lubricant tailored to your requirements.

Product Portfolio Sheet Forming



Non water miscible, chlorine free punching and deep drawing oils

With the STO series BECHEM offers a product range tailored to viscosity and performance which is based on latest technology: from forming oils for easy operations and all metal materials up to high-performance oils which, in stainless steel processing, are a real alternative to chlorinated products. The exchange of critical substances in metal working fluids is a considerable benefit not only with regard to process reliability and economy, but also for ecology.

Product	TECHNICAL DATA			APPLICATION MATERIAL				APPLICATION PROCESS					Minimum quantity lubrication Attributes	
	Viscosity [mm ² /s] at 40 °C	Polar substances	EP-additives	Steel	Stainless steel	Aluminium	Non-ferrous metals	Punching	Fine blanking	Deep drawing	Bending			
Beruform STO 114 ZF	72	ooo	oooo	•	•		•	•	•	•	•	•	•	Medium viscous forming oil for medium to demanding sheet forming operations
Beruform STO 116 ZF	100	ooo	oooo	•	•		•	•	•	•	•	•	•	Medium viscous forming oil for medium to demanding sheet forming operations with a high additive content
Beruform STO 121 ZF	98	ooo	ooooo	•	•		•	•	•	•	•	•	•	High-performance oil for severe to very demanding punching and fine cutting operations on transfer presses, well suitable for minimum quantity lubrication
Beruform STO 533	27	oo	o	•		•		•		•	•	•	•	Easy to medium sheet forming operations
Beruform STO 1268 STO 1568	120 150	oooo	ooooo	•	•			•	•	•	•	•	•	For difficult and most demanding sheet forming operations, especially fine cutting
Beruform STO 1368	130	oooo	ooooo	•	•			•	•	•	•	•	•	For difficult and most demanding sheet forming operations, especially fine cutting
Beruform STO 2068 STO 2568	200 250	oooo	ooooo	•	•			•	•	•	•	•	•	For difficult and most demanding sheet forming operations, especially fine cutting and deep drawing
Beruform STO 3446	340	oooo	oooo	•	•			•		•	•	•	•	Forming of fine sheets of normal deep drawing qualities, galvanised steels, stainless steels and aluminium
Beruform STO 8006	800	ooooo	oooo	•	•					•	•			Demanding sheet forming operations, chlorine free
Beruform MF 465 MF 765	40 68	ooo	ooo	•	•	•	•	•	•	•	•	•	•	Forming of fine sheets of normal deep drawing qualities, non-ferrous metals, steel and aluminium
Beruform MF 155	110	oo	oo	•		•	•	•		•	•	•	•	Forming of fine sheets of normal deep drawing qualities, non-ferrous metals, steel and aluminium
Beruform MF 1167 B	110	ooo	oooo	•		•	•	•	•	•	•	•	•	Forming of fine sheets of normal deep drawing qualities, non-ferrous metals, steel and aluminium

Non water miscible, chlorine free punching and deep drawing oils

Multifunctional oils

o = low ... ooooo = very high

The above mentioned products represent only part of our extensive portfolio. We will be pleased to tailor the optimal product to your specific requirements.



Product Portfolio Sheet Forming

Volatilizing punching oils

The BECHEM VSM product series is used when clean surfaces are required in easy forming operations with low material thickness. Different gradations of volatilizing components and lubricating parts guarantee very economic forming operations since further processing can in most cases be done without additional degreasing.

Emulsifiable, chlorine free punching and deep drawing lubricants

The BECHEM STE product series has been designed for the application as emulsion diluted with water; in individual cases it can also be used as neat forming oil. Since cleaning can be done with pure, slightly heated water, excellent surface qualities as well as very economical production processes and easy processing are guaranteed.

Chlorine-free pastes

Products from the BECHEM STP product series have been developed for most demanding forming operations where oils are no longer sufficient. In view of their pasty consistency these products are emulsifiable so that slightly heated water is sufficient for cleaning in order to achieve high surface qualities and realise economic production processes.

Special products for stainless forming of aluminium

For processing of highly sensitive aluminium alloys BECHEM offers special lubricant solutions which guarantee stainless forming operations.

Product	TECHNICAL DATA			APPLICATION MATERIAL				APPLICATION PROCESS				Minimum quantity lubrication Attributes	
	Viscosity [mm²/s] at 40 °C	Polar substances	EP-additives	Steel	Stainless steel	Aluminium	Non-ferrous metals	Punching	Fine blanking	Deep drawing	Bending		
Berufom VSM 9	1	-	-	•		•	•	•			•	•	Production of bending and blanking parts as well as spring material, NSF H1 approval, biodegradable OECD 301 F, sulphur free
Berufom VSM 41	1	○	-	•		•	•	•			•	•	Forming of steel, copper, aluminium and surface-plated materials, sulphur free
Berufom VSM 101	1,5	○○	-	•		•	•	•			•	•	Production of small parts, sulphur free
Berufom VSM 164	6	○	○○	•	•	•	•	•			•	•	Easy forming operations of steel, stainless steel and non-ferrous metals
Berufom VSM 506-1	6	○○○	-	•	•	•	•	•			•	•	Production of punching and bending parts
Berufom STE 5023	570	○○	○○○	•	•	•	•		•	•			Water miscible forming concentrate for punching and deep drawing processes, forming of normal and heat-treated steels, aluminium and non-ferrous metals
Berufom STE 426	450	○○	○○	•	•	•	•		•	•			Water miscible forming concentrate, especially for zinc plated belt material as well as for demanding aluminium and non-ferrous metal alloys
Berufom STP 50 CA	-	○○○○○	○○○○	•	•					•	•		High-performance drawing paste for non-cutting machining of normal and heat-treated steels
Berufom STP 152 DL	-	○○○○○	-	•	•	•	•	•		•	•		High-performance drawing paste for most demanding deep drawing operations; also suitable in combination with the STO-series
Berufom STP 3734	-	○○○○	○○○	•	•		•			•	•		Mineral oil free drawing paste based on native esters, sulphur free
Berucut MQL-A 20	27	○○○○○	-	•	•	•	•	•		•	•	•	Mineral oil free product especially for minimum quantity lubrication; well suitable for processing of low-alloyed steels and non-ferrous metals, sulphur free
Berucut MQL-AP 20	27	○○○	-	•	•	•	•	•		•	•	•	Mineral oil free product especially for minimum quantity lubrication; well suitable for processing of low-alloyed steels and non-ferrous metals, sulphur free, low mist formation

○ = low ... ○○○○○ = very high

The above mentioned products represent only part of our extensive portfolio. We will be pleased to tailor the optimal product to your specific requirements.



APPLICATIONS

- Deep drawing
- Bending
- Punching
- Fine blanking

PROPERTIES

- High loads
- Extended tool life
- Minimum quantity lubrication
- Low residue level
- Biodegradable
- Chlorine free

All indications and values correspond to latest knowledge and do not represent any product specification

Lubrication Solutions for Industry

With 180 years of experience, BECHEM is one of the leading manufacturers of premium quality special lubricants and metal working fluids.

Close cooperation with research institutes, industry partners and product users as well as the knowledge, skills and major commitment by our staff are guarantees of new and innovative high performance lubricants, which contribute to the success of our customers at home and abroad.

A powerful network of distributors and several national and international production sites ensure our products are readily available worldwide.

Tomorrow's technologies. Today.

