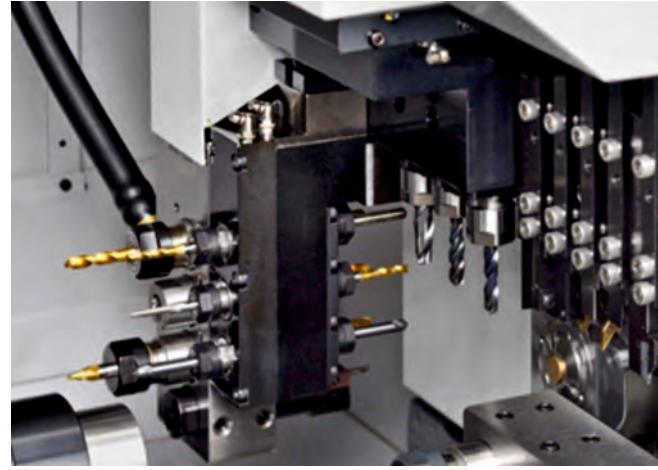


Advanced cutting edge solutions for
sliding head machines:

Sliding head machinery offers remarkable accuracy in modern high-speed, multi-axis operations with versatile material capabilities. The use of conventional mineral oil-based cutting fluids and coolants often causes overheating, emission of smoke and fumes, fire hazards and impact life of these machines.



Bercut XC 1010 is meticulously crafted for sliding head machines and guarantee higher efficiency across the entire process chain from machining, parts cleaning, corrosion protection etc.

Actual use case study: Increase in Tool life with Berucut XC

Customer: A reputed auto-component manufacturer with multiple manufacturing locations and supplies to top brands across the globe.

Machining process: Turning, Parting and Grooving Machine: Advanced Bar feeder

Material: Spring Steel

Tools: Carbide, Coated

Challenges faced by the operations team: Smoke, low tool life, high consumption due to carry over

Cutting fluid used previously : Conventional neat oil with viscosity of 32 cSt at 40°C

Trial results with Berucut XC.

Process	Turning		Parting		Grooving	
Cutting Fluid	Regular neat oil	Bericut XC	Regular neat oil	Bericut XC	Regular neat oil	Bericut XC
No. of components machined	650	950	700	926	1900	3116

Trial observations

- Smoke eliminated by more than 80%
- Tool life increased by 30- 64%
- Consumption reduced by half.
- Machine uptime increased by 89 hours / machine / annum.
- Machines are visibly much cleaner

For more case studies and performance comparison of Berucut XC range, write to us at sales@bechemindia.com

Lubrication solutions for industry



BECHEM XC - Advanced cutting fluids for Sliding Head Machines

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BECHEM XC Versus Conventional Neat Oils

Conventional mineral oil based neat oils	BECHEM and Berucut XC Range
<ul style="list-style-type: none">Low oxidation stability<ul style="list-style-type: none">Oil would turn thicker and impact performance (surface finish, tool life and emissions)	<ul style="list-style-type: none">Excellent oxidation stability<ul style="list-style-type: none">Longer service life
<ul style="list-style-type: none">Low viscosity index<ul style="list-style-type: none">Inconsistent lubrication will affect tool life and surface finish	<ul style="list-style-type: none">Higher viscosity index<ul style="list-style-type: none">Better lubrication and cooling behaviour
<ul style="list-style-type: none">Higher evaporation rate, higher consumption	<ul style="list-style-type: none">Low evaporation<ul style="list-style-type: none">Over 25% reduction in evaporation loss. Ensures low consumption
<ul style="list-style-type: none">Poor air release characteristics<ul style="list-style-type: none">Can briefly lead to dry machining scenarios and reduce tool lifeHigher chances of foaming	<ul style="list-style-type: none">Better air release characteristics<ul style="list-style-type: none">Aids in longer tool lifeLow foaming tendency
<ul style="list-style-type: none">Higher emission levels with PAH values at 0.06% and other contaminants	<ul style="list-style-type: none">Almost nil emission<ul style="list-style-type: none">Lower PAH values of 0.02%
<ul style="list-style-type: none">Can create smoke filled work environment	<ul style="list-style-type: none">Safer work environment<ul style="list-style-type: none">Free from Chlorine and heavy metals
<ul style="list-style-type: none">Sticky behaviour leading to higher carry over with chips and jobs leading to higher consumption<ul style="list-style-type: none">Dirty machines	<ul style="list-style-type: none">Non sticky behaviour with good flushing properties<ul style="list-style-type: none">Lower carry over, low consumptionVery clean machines

Additionally, BECHEM XC range also demonstrates the following advantages,

- Very high flashpoint
- Excellent material compatibility
- Minimal foam formation
- Higher machining speeds

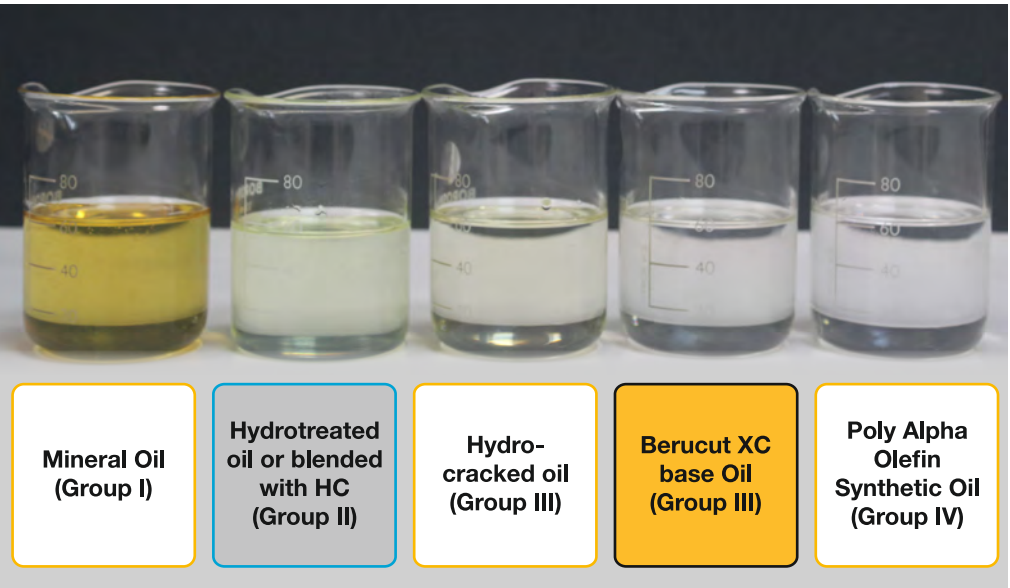
PICTOGRAMS PROPERTIES		
Chlorine Free		High Loads
Good Rinsing Performance		Low residue level
Low Foaming		Grinding
Extended Tool Life		Medical Technology
Corrosion protection		Drilling
		Deep Drilling
		Minimum quantity lubrication
		Milling
		Turning
		Broaching

BECHEM XC, Clear Fluid

In comparison to regular mineral oil based neat oils, BECHEM and Berucut XC range displays a clear, transparent appearance as a result of multiple filtration process the base oil is subjected to. The hazy yellow appearance of regular mineral based oils is a result of contaminants such as sulphur and other aromatic hydrocarbons. These contaminants oxidise faster and in turn affect performance of the oil.

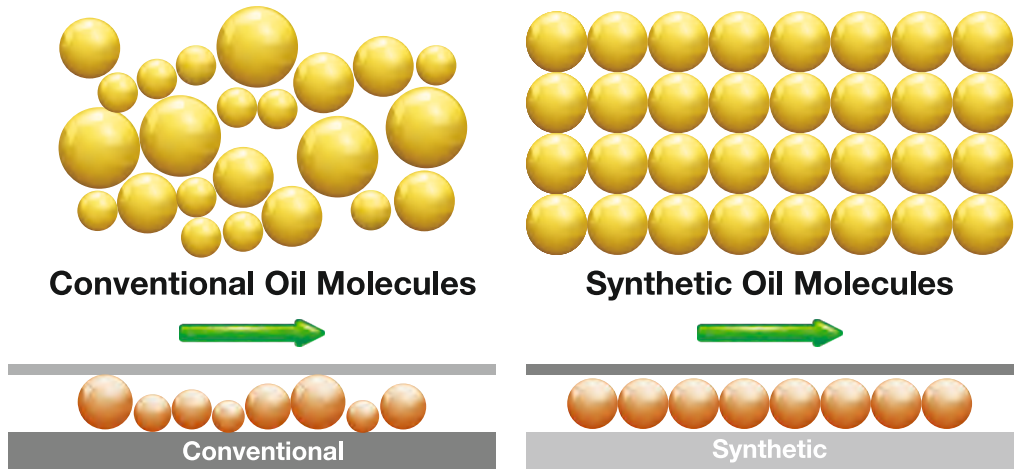
Higher purity and impact on performance

- Increase in 'viscosity index (VI)' of the oil
- Higher oxidation stability as unsaturated compounds prone to faster oxidation are reduced
- Increase in safety quotient, as Berucut XC range are free from heavy metals and chlorine. Also significantly lower quantities of sulphur and PAC emissions in comparison to regular mineral based neat oils



Consistent molecular structure with BECHEM XC series

Varying molecular sizes within conventional mineral oils result in inconsistent performance in contrast to consistent molecular structure present in BECHEM and Berucut XC series. For example, each monomer will behave differently under load and variable temperature conditions. The single type of molecular structure in XC range reflecting that of synthetic oils ensure consistent long term performance and also positively impacts air release characteristics.



	Materials to be processed	Viscosity (mm²/s) at 40°C	Density at 20°C g/cm³	Flashpoint [°C]	Pour point [°C]	Copper corrosion	Processes	Properties
Berucut XC 1115 	Nickel Alloys, Stainless, Steel, Steel, Titanium, Yellow Metals, Chrome, Cobalt Alloys	Approx. 15	0.85	≥ 195	< -30	1a	Turning, drilling, milling, grinding, deep drilling, thread manufacturing, gear flank grinding	Excellent surface qualities, low foaming, extended tool life, anti-wear/extreme-pressure additives*, very low evaporation tendency, low tendency to oil mist formation, no formation of built-up edges, very high flash point, high load carrying and rinsing capacity, good corrosion protection, very good viscosity index, chlorine and heavy metal free.
BECHEM Cut XC 2205 	Carbide Metal, Steel, Steel, Stainless Steel, Cast Steel, HSS, Titanium	Approx. 4.8	0.81	> 134	< -30	1	Grinding, Honing, Engrave, Tool Manufacture, Mould Construction, Die Manufacture	Excellent cooling properties, high dirt carrying capacity, low evaporation tendency, very good flushing properties, low foam formation. Suitable for fine filtration system.
Berucut XC 1010 	Steel, Stainless Steel	Approx. 12.5	0.830	> 179	-59	2C	Turning, drilling, milling, grinding, deep drilling, thread manufacturing, gear flank grinding	High-performance AW/EP additives ensure a high load-bearing capacity and reduce wear and tear on the tool, supports high cutting speeds, excellent flushing capacity.