

CONTROLLING PH JUST GOT EASIER

PRODUCTIVITY WITHOUT COMPROMISE



IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.

 **Castrol** *HYSOL XBB*

NOW YOU CAN CUT THE COMPROMISE FROM FERROUS MACHINING

Ferrous alloys like cast iron are robust materials that can corrode and often cause difficulty and costly problems to resolve on the shop floor. Leaching of alloy components and bacterial growth can lead to instability in fluid emulsion.

It is a daily requirement to hit increasingly high production targets, deal with pressure to refine schedules and reduce downtime.

Manufacturers are forced to make a choice, which often results in a compromise on a daily basis.

- Performance balanced with the need for anti-bacterial treatments
- Biocide use balanced with health and safety requirements
- pH stability balanced with fluid maintenance

Castrol's experts have been working to help combat these conflicting challenges to enable you to manage your cutting fluid maintenance without compromising overall performance. Castrol has formulated Castrol Hysol SL 35 XBB – a unique technology which is boron and biocide free and ensures:

Productivity for Longer

- Stable fluid with pH control technology
- System cleanliness and waste disposal

Fewer interventions

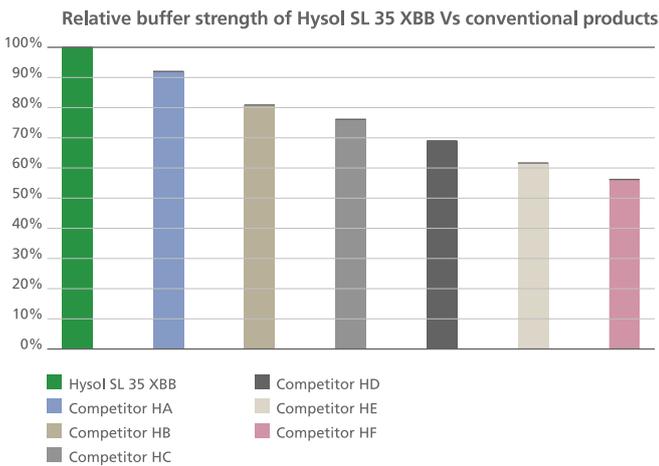
- Less fluid top-up
- Eliminates or reduces biocide use
- Less manpower

Precision performance with stability

- Lubricity – tool life, surface finish
- Reduced scrap

PRODUCTIVITY FOR LONGER

Castrol Hysol SL 35 XBB can remain effective for longer than conventional machining fluids, because the formulation is inherently more resistant to changes in pH due to microbiological activity. It can reduce the time and cost associated with additional top ups, helping you to meet production goals.



In laboratory testing Castrol Hysol SL 35 XBB has been shown to be able to neutralise up to 24% more acidic material than standard cutting fluids. This means it remains effective for longer.*

* based on titrating 7 fluids until a pH of 8.5 is reached.

FEWER INTERVENTIONS

Castrol Hysol SL 35 XBB extends fluid life and ultimately reduces interventions and downtime as proven in the comparative laboratory analysis.

Product	Representative contamination		
	Bacteria		
	Count	Ok until day	Events of biocide addition
Hysol SL 35 XBB	0*	>80	0
Competitor A	10 ⁵	34	1
Competitor B	10 ⁷	41	2
Competitor C	10 ⁴ - 10 ⁵	48	1

* Four instances of low growth

We have tested Castrol Hysol SL 35 XBB against typical competitor products.

At the end of 80 days test period, bacteria growth with Castrol Hysol XBB was still within acceptable limits, without need for any intervention.

By this time, all three competing products needed at least one instance of biocide addition, the first one as early as day 34.

Castrol Hysol SL 35 XBB improves operator conditions, and your health and safety profile as it is boron and biocide free.

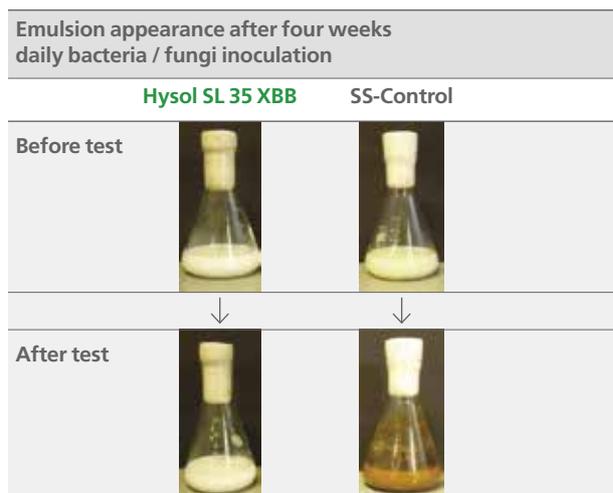
What's more, it significantly reduces, and in some cases eliminates, the need for biocide additives.

It can save up to 45% in overall fluid top-up volumes.**

** Based on the customer experience of a customer switching from standard cutting fluids we have seen that Castrol Hysol SL 35 XBB can save up to 45% in overall fluid top-ups.

Castrol Hysol SL 35 XBB significantly reduces, or can eliminate the need for biocide additives, reducing time and cost.

Even when severely stressed in a microbial challenge test, Castrol Hysol SL 35 XBB retains excellent emulsion stability properties.



Castrol Hysol SL 35 XBB test results

- No pH-drop
- No discoloration of fluid
- No bacteria
- No fungi
- Long time stable product

CORROSION PERFORMANCE

Castrol Hysol SL 35 XBB maintains machining performance and helps to protect against corrosion, even at low concentrations; reducing the demand of treatment required to maintain machines, pieces rejected and rework costs.

Castrol Hysol SL 35 XBB chip corrosion test			
			
			
2% in 20°dH	3% in 20°dH	4% in 20°dH	5% in 20°dH

The above test results show that Castrol Hysol SL 35 XBB exhibits good anti-corrosion properties.

PROVEN BENEFITS

Example one

A customer in Romania machining bearing components was looking to reduce system maintenance cost and have a formaldehyde-free product on health and safety grounds. After using Castrol Hysol SL 35 XBB, the customer derived the following benefits:

- Significant savings on maintenance additives as there was no need to add biocides or anti foam
- Good health and safety improvements
- Finished component quality was not affected in any way by the introduction of this product

Example two

A high end speciality bearings manufacturing company in China had to frequently add additives due to component corrosion issues and poor biostability of the emulsion after six months fluid life. They had skin irritation issues, a bad smell in the plant and excessive exposure to dangerous chemicals during numerous additive additions. Switching over to Castrol Hysol SL 35 XBB, the customer experienced many benefits some of which are:

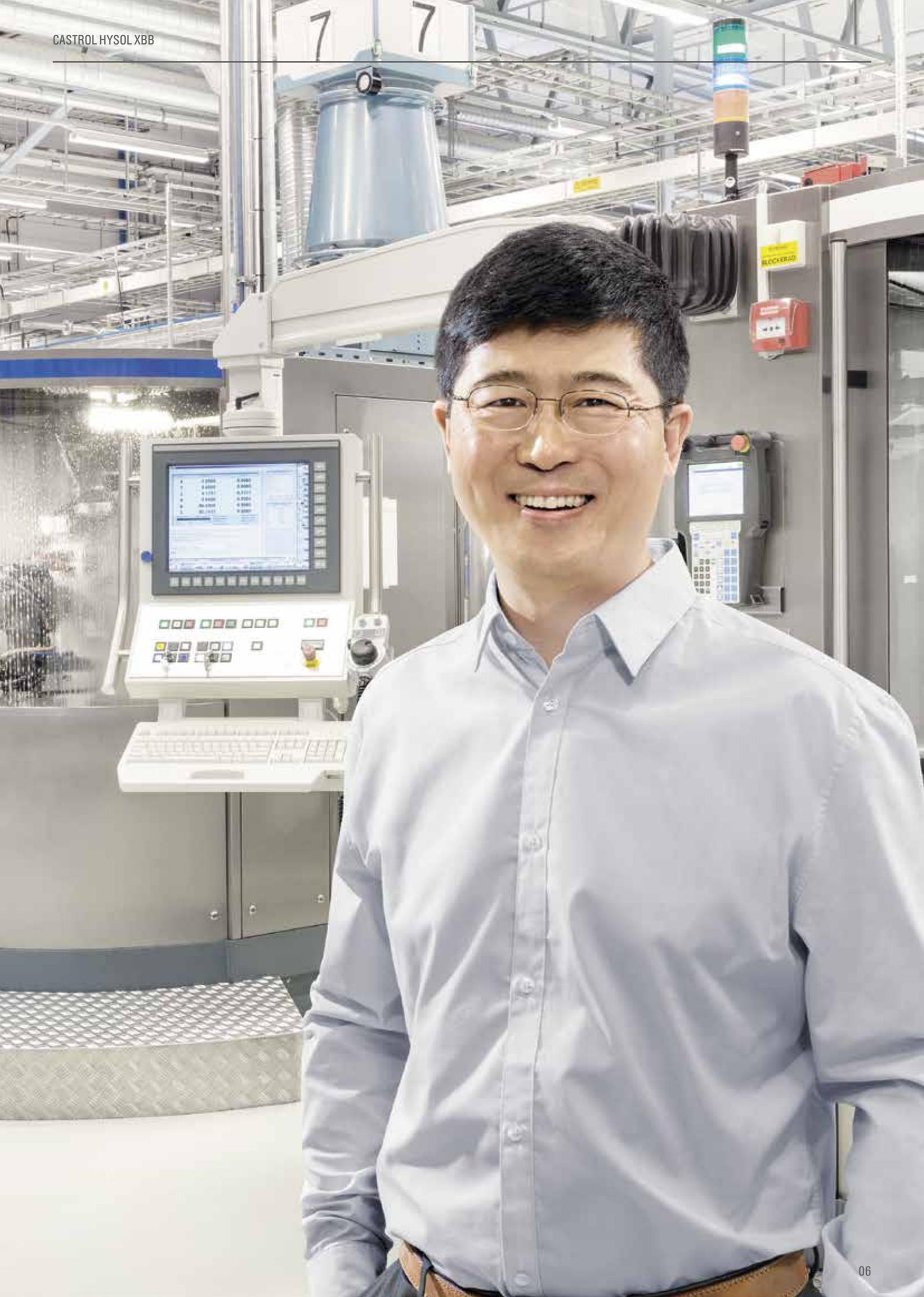
- Better anti-bacterial performance, no biocide additions were required and they eliminated bad smells in the plant
- Operator skin irritation issues were eliminated
- They met their health and safety requirements by eliminating foaming and producing a cleaner environment
- The product quality was stable
- Concentrate top up amounts were significantly reduced

Castrol Hysol XBB delivers long lasting fluids for system stability without compromising your productivity.

PRODUCT APPLICATION GUIDE

Application	Cast iron	Low-medium alloyed steel	High alloyed stainless steel	Aluminium alloys	Magnesium alloys	Yellow metals
Grinding	••	••	••			
Milling and Turning (general machining)	••	••	•			
Drilling	••	•				
Reaming and tapping	••	•				
Broaching	••					

- Possible application, please consult Castrol prior to use
- Suggested core application





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