CASTROL® HYSOL® SL 35 XBB

LONG-LASTING METALWORKING SOLUTION FOR EFFICIENT METAL MACHINING

Sales Card – Internal use only (Castrol and Distributor)

INTRODUCTION

Castrol® Hysol® SL 35 XBB is a semi-synthetic metalworking fluid for light-to-medium machining of cast iron and alloyed steel. It has been designed to deliver long system life and is suitable for a wide range of applications: broaching, drilling and deep drilling, grinding, milling, turning, reaming, tapping and boring of cast iron.

Suitable for large central systems and single-sump machines, Castrol Hysol SL 35 XBB has been developed on a platform that delivers a greater resistance to bacterial growth. This resistance does not deteriorate in the same way that formaldehyde-based biocides can, extending the life and effectiveness of the fluid for metalworking.

Castrol Hysol SL 35 XBB is suited for machining applications across a range of markets and sectors, including automotive component manufacturing Tier 1 and Tier 2 OEMs and distributors, machinery manufacturing and fabricated metal goods.

KEY QUESTIONS

What would it mean if you could extend the life of your metalworking fluid? Are there signs (such as bad odors, corrosion of parts or poor long-term performance) that your metalworking fluid is compromised by contamination from bacteria and fungi? Does this, in turn, lead to an increase in unproductive downtime because equipment is taken offline for fluid replenishment, cleaning or repair?

KEY FACTS

Castrol estimates that in around 50% of cases, the biocides used in soluble metalworking fluids are based on formaldehyde. These degrade over time, especially in warm factory conditions, which is why contamination from bacteria and fungi can occur. Castrol's new metalworking fluid is specially formulated to provide greater resistance to contamination from bacteria and fungi, reducing the need for biocides. In field trials we have seen impressive results, with customers reporting significant increases in system life and improved factory conditions after switching from alternative metalworking fluids that contained biocides.

KEY CLAIMS

Castrol Hysol SL 35 XBB is formulated to help deliver a long system life and can remain effective for longer than conventional machining fluids because its formulation provides greater resistance to microbiological breakdown.

Field testing has shown that Castrol Hysol SL 35 XBB was able to deliver a reduced need for maintenance additives and a reduced incidence of both corrosion and generated waste, thanks to a longer system life.

Castrol Hysol SL 35 XBB significantly reduces or can eliminate the need for biocide additives.

Castrol Hysol SL 35 XBB can save up to 45%* in overall fluid top-up volumes.

Castrol Hysol SL 35 XBB is free from boron, biocides, chlorine and nitrite.

* Based on the experience of a customer switching from a standard cutting fluid.

Castrol HYSOL XBB

PRODUCT APPLICATION GUIDANCE

	Cast iron	Low-to-medium-alloyed steel	High-alloyed stainless steel	Aluminum alloys	Magnesium alloys	Yellow metals
Grinding	••	••	••			
Milling, turning (general machining)	••	••	•			
Drilling	••	••				
Reaming, tapping	••	•				
Broaching	••	•				

•• Suggested core application • Possible application; please consult a Castrol representative prior to use

TECHNICAL CHALLENGES

CHALLENGE: Productivity problems caused by coolants with a short life	
Example questions to ask	• Do you find machining quality declines over time, until you change coolant? • How quickly does that happen? Is the effective life of the coolant acceptable to you? • How often do you have to clean out lines? • How do you manage waste coolants? • Do operators complain of foul-smelling coolants or skin complaints as a result of handling service additives?
Possible customer need	• Consistent machining quality over an acceptable period of time with minimal disruption and downtime
Problem implications	• Frequent change-out of coolant, leading to waste-disposal costs • Downtime and resources required for cleaning and fluid replenishment • The possible need for biocide additives • Operators can experience skin problems • Unpleasant odors • Poor finish and corrosion may be seen
Potential solution	• Castrol Hysol SL 35 XBB shows excellent resistance to microbiological breakdown without the need for biocide additives. Castrol Hysol SL 35 XBB neutralizes acids from bacteria and fungi and keeps the pH where it should be for longer than other standard cutting fluids*. This resistance to coolant breakdown also lowers the risk of poor machining performance or equipment corrosion. • In field trials Castrol Hysol SL 35 XBB has been shown to extend system life compared to the formaldehyde-based, biocide-containing metalworking fluids previously used. Extending system life helps reduce unproductive downtime for recharging, and means that less fluid is required, and less waste is generated. • Castrol Hysol SL 35 XBB is proven to maintain pH at a constant level and assure constant productivity for longer than other standard cutting fluids, significantly reducing or eliminating the need for biocides. Castrol Hysol SL 35 XBB is boron and biocide free.

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

TECHNICAL CHALLENGES

CHALLENGE: Water compatibility	
Example questions to ask	• Do you currently use deionized water or water additives?
Possible customer need	• Low total cost of operation • Continued, effective production-line performance
Problem implications	• Expense of using demineralized water or additives to avoid a poor finish
Potential solution	• Castrol Hysol SL 35 XBB is stable over a wide range of water hardnesses (100–800ppm $CaCO_3$) and may eliminate the need for demineralized water • Castrol Hysol SL 35 XBB is low-foaming in recommended water conditions (100–800ppm $CaCO_3$) at typical operating pressures. As a result, it helps production areas remain clean, with less risk of operator injury due to slipping

CHALLENGE: Compliance without compromising performance	
Example questions to ask	• Are you concerned that complying with current and future legislation could compromise your metalworking performance? • Will you need to move away from your current metalworking fluid to meet possible future legislation?
Possible customer need	• Hassle-free compliance • Continuation of performance unhindered by possible future legislative requirements surrounding boron- and formaldehyde-releasing biocides
Problem implications	• Inadequate lubrication can lead to high costs of replacement tooling or rejection of components • Swarf and fines can lead to poor surface finish, and diminished tool life and machining efficiency • More drag-out means that higher top-up concentrations may be required • Corrosion at low concentrations can lead to rejection of parts (by customer or as waste in factory)
Potential solution	• Castrol Hysol SL 35 XBB already contains no boron- or formaldehyde-releasing agents and can help operators meet aspects of possible future legislation that prohibit the use of these chemicals • With no formaldehyde-releasing agents, Castrol Hysol SL 35 XBB can last longer than conventional* metalworking fluids that contain these biocides • In anti-corrosion test DIN 51360/2, Castrol Hysol SL 35 XBB showed better corrosion resistance than a range of metalworking fluids

* Conventional European market-leading metalworking fluids containing formaldehyde-based biocides that were tested against Castrol Hysol SL 35 XBB by Castrol.

For further information, the Product Data Sheet and the Material Safety Data Sheet, please visit thelubricantoracle.castrol.com

OEM APPROVALS

Avic Haerbin Bearing Co. LTD	Customer endorsed
Junker Maschinenfabrik GmbH	OEM Approved
SNECMA - Safran	OEM Approved