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The lifeblood of engine production

Hundreds of thousands of engines produced over two decades with the same cutting fluid



Production module manager Georg Lage and sales engineer Peter Pesahl: Blaser Swissslube and Berner+Straller have partnered MAN for two decades with efficient cutting fluids for engine production.

MAN Commercial Vehicles output of 85 kW to 1300 kW (114 hp to 1743 hp) diesel engines has almost doubled in the last decade. Over this time and to this day, the same cutting fluid is still used in the transfer lines and inter-linked machining centres. Supplied by Blaser Swissslube for the last 20 years, it did not require re-charging until after ten years of 3-shift operation. Recently this same fluid was selected for the new production line as well.

m+w Blaser Swissslube cutting fluids are used at MAN Commercial Vehicles Nuremberg in two transfer lines (Grob and Burkhardt+Weber). On these production lines MAN already machined more than 400,000 D 08 series diesel engines, including cylinder head and crankcase drilling, milling and turning. Over the last two decades MAN has developed the modern "common-rail" engine concept, with connecting rods, camshafts, rocker arms and blocks produced separately. For a new engine an ultramodern crankcase production line is currently being commissioned with inter-linked machining centres, Heller transfer units and Alfing cracking operation. MAN has rationalized engine production so radically over the last 20 years that today's output per annum has almost doubled to four engines per productive employee. But over all these years one thing has not changed: since 1983 Blaser Swissslube has been supplying the "Blasocut" cutting fluid used for cooling, flushing and lubrication during machining. Furthermore, this fluid first introduced in 1983 was not replenished until after ten full years of 3-shift service! And

just like MAN engines, it was continuously improved during these two decades, adapted and modified to market needs. Today this practically everlasting cutting fluid is known as Blasocut Kombi Art. 883 – because it is equally ideal for machining or grinding applications. During 20 years of use by MAN so far this fluid has substantially improved efficiency and therefore productivity. Technical expert and sales engineer Peter Pesahl of Berner+Straller, the local agent for Blaser Swissslube, even remembers the Blasocut trial and introductory phase twenty years ago: "The reason was that cutting fluids in those days did not last long enough, caused biological and hygiene problems as well as the usual allergies, and troubled the MAN production employees accordingly."

Blasocut was first tested in field trials on machining centers with individual cutting fluid systems – and it was soon approved by all concerned at MAN. It then filled MAN's largest 220 m³ (60,000 gallon) system, for which foreman fitter Heiko Klein from the MAN maintenance department is responsible. Twenty years after the change-over to this Swiss cutting fluid, he still has



More than 400,000 D 08 diesel engines have so far been drilled, milled and turned on the two MAN production lines

no trouble maintaining the coolant. It still does its job reliably, in 3 shifts around the clock, without failure. This mineral-oil based emulsion only needs to be replenished for water and oil losses due to drag-out and evaporation. A trouble-free cutting fluid supply system "is critically important for uninterrupted production". Maintenance foreman Heiko Klein is more than happy with the minimal outlay for maintenance, service and control using Blasocut Kombi Art. 883 cutting fluid: he just checks a sample once daily for compliance with the German TRGS 611. The concentration is maintained between 5 and 6 percent. Once weekly he takes a cutting fluid sample which is immediately sent by Nuremberg supplier Berner+Straller to the Blaser Swisslube laboratory.

There a detailed analysis is made of its composition and compliance with set values. The go-ahead is then given for ongoing utilization, normally without any correction being necessary. The Blasocut concentrate is delivered as required on a just-in-time basis by 17 m³ (4,500 gallon) MAN tanker truck and pumped into the storage tank. From there it is piped through a flowmeter into the central mixing area. The transfer lines are supplied from the 220 m³ (60,000 gallon) system delivering 16 m³/minute (4,200 GPM) of cutting fluid. This cools and lubricates the tooling and washes the swarf back into the coolant filter system.

One glance at the production line is enough to show how disastrous a cutting fluid supply failure would be – causing tool breakage and standstill, with very expensive loss of production – but so far this has never happened. Worst of all would be the

resulting interruption, as MAN is working at maximum 3-shift capacity to meet demand. Preventive maintenance of the central coolant system is therefore carried out during week-ends and holidays. Over the years the cutting fluid has been continuously modified and improved to meet new requirements.

MAN is more than happy with the improvements made by its flexible partners Berner+Straller and Blaser Swisslube: "Our suggestions were taken up immediately and implemented with perfect teamwork to make our cutting fluid system absolutely trouble-free". At MAN Commercial Vehicles "never change a winning team" has clearly paid off handsomely –

thanks to two decades of loyalty to Blaser Swisslube and their agent Berner+Straller, full benefit has been reaped from ongoing development of



Two cutting fluid systems supply the MAN engine production line with a 5% to 6% emulsion.



The new crankcase production line also uses the well-proven Blasocut Kombi Art. 883 cutting fluid.

the same cutting fluid, now known as Blasocut Kombi Art. 883.

With such a perfect combination of product and service, there has never been any need



The Mayfran treatment system makes swarf disposal much easier for Heiko Klein.



Blasocut Kombi 883 on the job. This is only one of the production line stations – here without workpiece – showing just how much cutting fluid is required overall for crankcase machining.



Maintenance foreman Heiko Klein never has any cutting fluid problems. He just checks the emulsion once daily on the machine and once weekly in the laboratory.

for a change. "Obviously MAN continuously scrutinizes new suppliers and products – as well as costs, but we look at overall process economy rather than merely the purchase price".

Very important in this respect is cutting fluid quality with regard to service life,

operating properties and hygiene aspects, as well as the necessary concentration which is particularly economical with Blasocut. Procurement costs alone are only part of the picture!

Taking account of overall outlay and cutting fluid system costs, this Swiss product

has always won so far when it comes to bottom-line results. Ongoing checks and comparisons have never shown any need for a change. ■

What is so special about Blasocut cutting fluid?

The Blasocut Kombi Art. 883 cutting fluid used by MAN Commercial Vehicles AG, Nuremberg, is delivered as a 53% mineral oil concentrate. Only 5 to 6% is required for emulsification with normal water. This universal cutting fluid is equally suitable for turning, boring and milling or for grinding. The oil rejection properties of Blasocut largely prevent emulsification of foreign oils and leakage.

Blasocut cutting fluid is slightly alkaline, free of chlorine and skin-friendly. It complies with the German TRGS 611 technical regulations for hazardous substances, and contains no nitrides or bactericides.

Blasocut forms a stabilized natural biological flora after mixing with normal water. This achieves bacterial-resistance (no decomposition of ingredients) and prevents fungus and yeast formation. The recipe and chemical formulation of Blasocut are kept top secret by Blaser. Please add Blaser Swisslube inc (USA contact Information)

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