

## PANOLIN HLP SYNTH 32 obtains RDE 90235

PANOLIN HLP SYNTH 32 is the first and so far only eco-friendly hydraulic oil to feature in the Bosch Rexroth RDE 90245 Fluid Rating List

Madetswil, May 9, 2017 – "Yet again, we have proven that our biodegradable products such as PANOLIN HLP SYNTH 32 also meet the highest industry requirements", says Patrick Lämmle, Chairman of the Board of Directors of PANOLIN International. "The Bosch Rexroth test results were excellent, the rigorous requirements of the RDE 90235 were met without a doubt", comments Lämmle.



*Fluid test stand Bosch Rexroth*



"PANOLIN HLP SYNTH is the first rapidly biodegradable hydraulic oil to obtain the Fluid Rating (ISO 15380 in combination with RFT-APU-CL test)", explains Lämmle. "HLP SYNTH 32 has proven its worldwide prominent position amongst eco-friendly hydraulic oils". HLP SYNTH was the first hydraulic oil to obtain the 'Blue Angel' environmental award around 20 years ago and has already been approved by numerous manufacturers. Its inclusion in the Bosch Rexroth list means that HLP SYNTH now also bears the label of what is currently the most rigorous OEM test on the market. Recent years have seen a sharp increase in the requirements to be met by hydraulic oils. Growing power density – the result of higher working pressures, motor speeds, oil circulation cycles and temperatures – has driven the development of hydraulic systems forward in past years, imposing more demanding requirements on the hydraulic liquids used in these systems. These liquids have a decisive impact on the friction characteristics of the hydraulic components, amongst other things.

The ongoing technical development of high-performance hydraulic systems and suitability of new hydraulic media and additives are only partially reflected in the tests used to date. Whereas in the 1970s, specific power density was approx. 4 to 5 KW/kg pump weight, that figure, at over 8 KW/kg, had almost doubled by 2010. Today's hydraulic fluids must be carefully engineered to cope with these developments, i.e. smaller pump units with a higher output and a range of other efficiency-improving modifications to the hydraulic system.

### Neutral evaluation method

"Mineral oils in the DIN 51524 T.3 category and eco-friendly lubricants in the ISO 15380 category naturally have to pass a pump test to meet the requirements of these standards, but those tests are a minimum requirement only", explains Lämmle. Indeed, more than one hydraulic fluid which meets DIN 51524 T.3 or ISO 15380 fails in new-generation hydraulic systems because it no longer meets the requirements of state-of-the-art hydraulic systems such as higher pressures, shorter circulation

times, smaller reservoirs and shorter rest times, comments Lämmle. Which is why, in recent years, Bosch Rexroth has come up with a neutral evaluation procedure designed to realistically reflect current requirements.

## Test laboratory wear comparison

### New component



*Piston slipper pad*



*Slipper pad retaining plate side*



*Retaining plate contact slipper pad*



*Cylinder A6 piston bore*

### PANOLIN HLP SYNTH 32 Test passed



*Piston slipper pad*



*Slipper pad retaining plate side*



*Retaining plate contact slipper pad*



*Cylinder A6 piston bore*

### Example for a product which failed test



*Piston slipper pad*



*Slipper pad retaining plate side*



*Retaining plate contact slipper pad*



*Cylinder A6 piston bore*



A6 pistons



A6 pistons



A6 pistons

### The new test imposes up to 500 bar

Hydraulic fluids that successfully complete this procedure are featured in the Bosch Rexroth Fluid Rating List. This new, scientifically standardized evaluation procedure is designed to test the fluid characteristics and interaction with key components, i.e. pump and motor, in realistic operating conditions. Amongst other things, the test includes verification of the liquid technical ratings for accuracy and standard conformity. An application-oriented pump and motor test, plus a specific seal test, put the liquids through their paces in demanding conditions and varying cycles over several hundred operating hours, at both high temperatures and low viscosities. Conventional tests are conducted at 350 bar, the new test imposes up to 500 bar. Hence, the quality of the hydraulic oil has an ever more important impact on the service life and dependability of hydraulic systems.

"This proves that we continue to set the industry standard in the field of rapidly biodegradable hydraulic oils. Users of HLP SYNTH have the peace of mind of knowing that these oils reduce the maintenance and downtime costs of their machinery and plant whilst increasing operating reliability, thereby delivering a significant reduction in total operating costs", explains Lämmle.

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#### About PANOLIN

The PANOLIN Group emerged from PANOLIN AG, founded in 1949. The Group is an independent Swiss family business with head office and own production facility in Madetswil, near Zurich. The development, production and marketing of lubricants are certified to ISO 9001 and ISO 14001 as well as ABS (American Bureau of Shipping). Innovation, flexibility, technical competence and close customer relations all make the PANOLIN Group a very capable partner in anything to do with lubricants.