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USER REPORT

COMPANY: AVON AUTOMOTIVE

APPLICATION: HOSE RELEASE

PRODUCT: RHEOLEASE[®] 2548

Avon Automotive operating in the Czech Republic had agreed with the local authority a COD discharge limit in 1998 of 1600 mg/l. At that time, the COD discharge values varied between 1200mg/l and 3000 mg/l. In 2000 the plant was told that the discharge limits would be progressively reduced from 1600mg/l to 1000mg/l then to 600 mg/l and finally to 350 mg/l in 2006.

A plan was put in place to improve the water treatment facility (aerated lagoon system) and by 2003 the discharge was under 1000mg/l. Further reduction to 600mg/l, let alone 350mg/l, was judged impossible in terms of simple expansion of the treatment facility. To reach the required limits, an improvement in the rate of biodegradation of the lubricant was necessary and the plant requested that Performance Fluids develop a lubricant of equal capability to those already in use, but which had either a COD of only half of that of the current lubricant or an initial (7 to 14 day) biodegradation rate of about 3 to 4 times that of the current lubricant.

In 2005, after extensive testing, Rheolease[®] 2548 was formulated which, although not capable of working on all the rubber compounds utilised at the plant, was capable of replacing about 70% of the current lubricant usage. The introduction of Rheolease[®] 2548 required a significant change in autoclave usage so that those few compounds that only worked with the original lubricant were loaded on the same trolley in order that its usage was minimised. In spite of these changes, the bio-treatment plant had fully adapted after 6 months to the new lubricant and, by 2006, the effluent discharges had dropped such that, on most measurements, it was under the 350mg/l limit. Thus by close collaboration between Performance Fluids and the end-user and a good understanding of the issues involved COD targets were achieved relatively painlessly.

Rheolease[®] 2548 has since been used at another hose plant in the Czech Republic and has given a similar reduction in COD in the effluent. Once again, although the previous product was biodegradable, its rate of degradation of between 7 and 21 days (after bio adapting) was slow and by replacing the lubricant with the Rheolease[®] 2548 the COD discharge came within limits.