

METALS (USA)

ENVIRONMENTALLY FRIENDLY LUBRICANTS

Castrol Environmental Solutions

ANNUAL SAVINGS: \$60,000



THE SITUATION

The proximity of a leading steel producing plant to a nearby river demanded very high standards for the cleanliness of the discharge water in regards to the content of hazardous materials such as heavy metals, benzene and toluene.

The previous lubricant supplier was unable to provide all products free of heavy metals, toluene and benzene. This resulted in multiple environmental regulation violations at over \$20K for each violation, and associated expenses to prevent violations. Even more important was the potential for damage to the customer's image and reputation.

BEFORE

- Oil and grease usage per ton produced in 2005 – 2.4 lbs/ton
- Oil and grease usage per ton produced in 2006 – 1.54 lb/ton
- Discharge Zinc level in 2005 and 2006 – 2 lbs per day
- Number of violations in 2005 - 3
- Number of violations in 2006 - 2

AFTER

- Oil and grease usage per ton produced in 2007 – 1.4 lbs/ton
- Discharge Zinc level in 2007 – 0.67 lbs per day
- No violations of environmental regulations and no fines in 2007

THE SOLUTION

- This leading steel producer and Castrol, working as partners, have achieved a very significant reduction of zinc, benzene and toluene in lubricants used, without compromising performance or life of the equipment.
- A seamless transition to lubricants free of hazardous materials was achieved.
- Zinc-free grease was developed to meet plant performance expectations and to replace the formerly used zinc-containing lubricant.
- New Castrol zinc-free grease being run in the caster was not only environmentally friendly but outperformed currently used grease by increasing bearing life and number of heats 21%.

A leading steel producing manufacturer wanted to avoid violations of environmental regulations and improve its image and reputation.

Customer/Castrol efforts to protect the environment have delivered positive results.

RECOMMENDATIONS

Castrol is able to supply a full range of environmentally-friendly lubricants with the ability to handle the very harsh working conditions of steel mills and other facilities, while reducing environmental impact.

All Castrol lubricants used at this leading steel producer are free of heavy metals, toluene and benzene.

LUBRICANT	HEAVY METALS	TOLUENE / BENZENE	REMARKS
Hyspin ZZ 32 hydraulic oil	ND	Trace	up to 2ppm
Hyspin ZZ 68 hydraulic oil	ND	Trace	up to 2ppm
Alpha SP 320 mineral gear oil	ND	ND	
Alpha SP 460 mineral gear oil	ND	ND	
MA 6040/460-1.5 grease	ND	ND	
Alphasyn T 220 syn. gear oil	ND	ND	
Alphasyn T 460 syn. gear oil	ND	ND	
Magna CTX 460 WT circulating oil	ND	ND	
Hyspin Spindle Oil 10	ND	Trace	< 1 ppm

ND – None detected .i.e. < 1 ppm. It must be pointed out that these products do not intentionally contain any heavy metals. However, note that heavy metals are natural components of the earth's crust in trace amounts and can be an impurity in some chemicals.

CONCLUSION

By taking a total system approach, Castrol has developed a solution to optimize every aspect of the manufacturing process.

In partnership with customers, Castrol will work to dramatically cut waste reduction and lubricant usage and improve health, safety and the environment.

We'll match our outstanding environmentally-friendly product range to your individual process needs and support it with innovative technology and world-class technical service.

Manufacturing success through sustainable technology from Castrol—let us help you with your environmental challenges.



OTHER POTENTIAL APPLICATIONS

- In manufacturing, the pressure to reduce environmental impact has never been greater. But at the same time, economic considerations don't go away.
- Castrol can provide help not only to steel producing customers but to any industrial manufacturer to reduce their business risk and achieve their 'green' objectives, by bringing together innovative lubrication technologies that provide a compatible chemistry platform for environmentally-sensitive solutions.

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