



**CLEAN OIL
BRIGHT IDEAS**

**Application Study
written by:**

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2005

Lube Oil Stainless Steel Wire Manufacturing

CJC™ Application Study

CLIENT

Inoxfil, S.A., founded in 1990, is dedicated to the manufacture of stainless steel wire and is the biggest factory in Europe. Inoxfil is part of the group Acerinox, S.A. group, internationally recognized as the world's most competitive company in the manufacture of stainless steel.

THE SYSTEM

Consists of a system for lubricating the machine for drawing stainless steel wire under the PLEUGER brand name. Each tank holds between 300 and 500 litres of FUCHS, RATAK TRP 170 / 2.300 lubricating oil. The oil's viscosity at operating temperature is 400 cSt.

THE PROBLEM

The drawing process heats the oil, accelerating the ageing process and generating resins. When introduced into the machine, the stainless steel wire is covered with dust. This generates particles that contaminate the oil. The level of water is high. This mixture of contaminants adheres to the surface of the final product (the wire), blocking the wire nozzles in the soldering machines and seriously reducing the useful life of the lubricant.

THE SOLUTION

A CJC™ HDU 27/54 PV Fine Filter with a CJC™ Filter Insert FA 27/27 was installed so that the oil at the bottom of the lubrication system tank would be continuously cleaned and dried. The volume of flow is 45 l/h, eliminating sludge and particles of 3 µm absolute size, and absorbing the water.

THE RESULT

Tests on the "distribution of particles", in which oil samples were taken before and after the installation of the CJC Filter, show a significant reduction of particles, resins and water.

The level of particulate contamination was lowered by a factor of approximately 12. The resins were eliminated and the water level was lowered. The wire no longer displays stains from the drawing process that had been caused by the temperature and the contamination. The life of the oil has been prolonged.

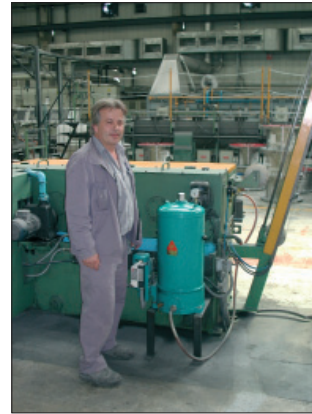
COMMENTS

Comments by Xavier Brugués

(Head of Maintenance):

"...The CJC unit has given us some very satisfactory results. It is a very beneficial installation, and assures us of a clean oil, something crucial for good lubrication. Our final product, the stainless-steel wire, has also been improved and is no longer stained by oxidation of the lubricant..."

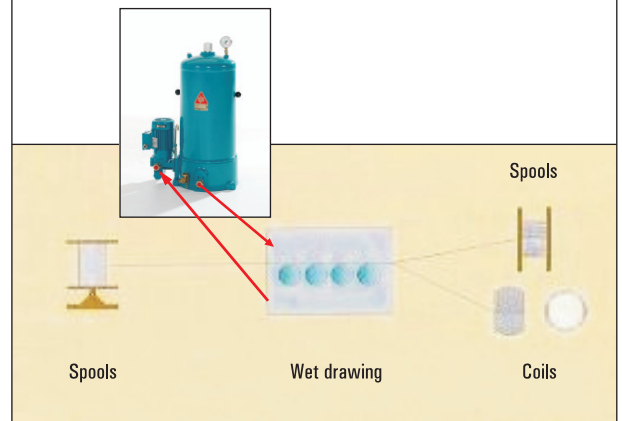
"...It's for this reason that we have installed Off-line Fine Filters in 13 systems."



*The INOXFIL, S.A. plant
(Iguada - Barcelona)*

*Josep Musons (Head of the
Mechanical Workshop) and the
installation of the CJC™ Off-line
Filter.*

Production process and installation of the CJC™ off-line filter



Results of tests on the CJC™ off-line filter at the Inoxfil plant

Size of the Membrane:	Weight of particles, % (in the oil)	
	BEFORE	AFTER (approx. 4 months)
1 µm	2.819 %	0.241 %
2 µm	2.747 %	0.0 %
5 µm	2.298 %	0.0 %
10 µm	1.276 %	0.0 %
Water	22,000 ppm = 2.20 %	874 ppm = 0.08 %
Level of resins (oxidation)	black	white