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# Rainmaker

MULTINATIONAL

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ENVIRO-SAVE products inc.  
P.O. BOX 80129  
Burnaby, B.C., Canada V5H 3X5  
**ATTENTION: MR. WARREN CASPERSON**

Dear Warren,

The following is an overview of the preliminary data which we have gathered in the use of Enviro-Save 44040 hydraulic treatment and 333300 Hi-Temp grease in a 180 ton Kawaguchi JEKS-180 plastic injection molding machine. The customer is an O.E.M. automotive supplier of plastic parts and has 44 injection molding machines.

The customer has a power supply problem, in that their present 600A 600V 3 $\phi$  service is fully utilized and additional power will require Ontario Hydro to furnish new supply cable to the location, at a cost to the customer of \$250,000.00. In the course of operation, the main fuses are frequently blown. Additionally, one of the machines is sufficiently large that it can only be used when 50% of the manufacturing is shut down, (2 X 100 HP, 600V 3 $\phi$  motors to power hydraulics).

The test machine was treated in December 1993. Pre-test current draw readings were taken by a maintenance mechanic at the facility and recorded by H. White of R.M., (Rainmaker Multinational). The molding operation is comprised of cycle segments of varying duration and load. To obtain the greatest accuracy, therefore, each of the segments was broken down into current draw / cycle segment.

The charts on the following page illustrate the highlights of the results obtained.

We can hardly call this hard science, since measurements taken from one machine cannot be seen as being precisely representative for all the others, but the 26.49% reduction in power consumption on this machine represents significant savings. The power bill for this customer is \$220,000 / year. It is also important to note that approximately 90% of post-treatment figures were obtained some 2 weeks after treatment and have stabilized as of the most recent testing, (03/10/94).

We hope that this information is of help to you, Warren, and we will keep you informed on future treatment and results.

Best regards,

Larry J. Baker



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**Pre-Treatment (12 / 93)**

Cycle Duration	Amps / cycle seg. (1 leg 3 $\phi$ )	Segment duration as % of total cycle	KVA / segment	Total KVA/cycle
75 sec. <sup>1</sup>	46 A <sup>2</sup> 36 A 22 A	4.0 <sup>3</sup> 30.6 65.4	1.88 11.25 14.69	27.82

**Post - Test (03 / 94)**

Cycle Duration	Amps / cycle seg. (1 leg 3 $\phi$ )	Segment duration as % of total cycle.	KVA / segment	Total KVA/cycle
75 sec. <sup>1</sup>	38 <sup>2</sup> 28 16	4.0 <sup>3</sup> 30.6 65.4	1.55 8.22 10.68	20.45

- 1) Motor drives high press - high vol. pump. G.p.m. unknown. Max. pressure, (4 % of cycle time), 140 Bar (2000 p.s.i.).
- 2) Amps recorded on single leg of motor, thus factor of 1.73 must be used.
- 3) There were 5 cycle segments with 3 distinct current draws. Duration is based on similar amperage draws as percentage of 75 - sec. cycle.