

# Report of Installation on Marble Cutting Bed at Ding Li Marble in Nanjing, China July 2005. Average Savings $\cong$ 18%

Ding Li specialise in the cutting and shaping of quality marble and granite and produce a substantial amount of surface sheeting and complex ornamental structures in these materials.

The applications we were interested in, on this site, were the motor drives for the belt driven cutting blades on the flat bed cutting system. These are running for most of the working day during which time they are frequently stopped and started, resulting in an ongoing requirement to maintain the belt drives.

The working day at Ding Li was, at the time of the installation, only eight to ten hours for five days a week, so whilst the overall direct savings on the motor are good, (greater than 18% measured), the payback is at the upper end of the acceptable scale for the Customer. This being said they were motivated by the advantages that the soft start will give them, as all of their flat bed cutters are belt driven and though belts are not expensive to replace, the downtime can be problematic as it interrupts jobs and increases scrap; additionally a belt breaking during a cut can cause damage to the marble or granite.



## One of the Many Flat Bed Cutting Systems in Operation

In this instance the EnviroStart was only going to be fitted for the short period of the test and as such it was peripherally integrated into the existing circuits using flying leads. This operation was very easy in this case as the motor was wired DOL, (Direct on Line) and controlled through a simple electro-mechanical switching system adjacent to the cutting head of the flat bed.



The motor was running at an average of 13.5A without EnviroStart energy savings being enabled and at 11A with; this giving a direct indicated saving of >18%. It was also noticeable that the belt scream was eliminated at start up and that even during the short period of the test, that the motor was running noticeably cooler than its counterparts on the other cutting beds.

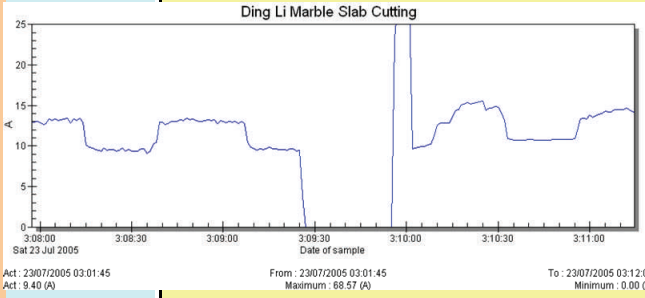
# Report of Installation on Marble Cutting Bed at Ding Li Marble in Nanjing, China July 2005. Average Savings $\cong$ 18% Giving a Payback of $\cong$ 2 Years

EnviroStart Three Phase G6 Soft Start & MEC Audit Analysis

Date: 21.7.2005 Customer: Ding Li Marble

Application	Motor Identity	MEC Or SS	Motor Plate kW	Motor Plate A	Motor Power in A Meas	Motor Power Factor Meas	Hours Motor Runs/Day On Load	Hours Motor Runs/Day in Off Load	Days Motor Runs/Year	Motor Load %	E/Start Std Size	kW/Day Without E/Start	Motor Cost/Day Without E/Start	kW/Day With E/Start	Motor Cost/Day With E/Start	Savings as a %	Savings in £ per day	Savings in £ per year	P/Back in Years	EnviroStart Type Required	Cost of EnviroStart Unit (No Installation)
1 Cutting Machine	B 3	C MEC	D 15.0kW	E 28.0A	F 13.0A	G 0.30Pf	H 8	I 350	J 46	15.0kW	63.7kW	£4.14	55.4kW	£3.60	13.0	£0.54	£188.29	2.10	400-TPMECG6-15	£395	

The savings shown here are greater than 18% however this would be affected by the loading created by the thickness and duration of the cuts. Typically we would



MEC Savings	£188	Cost of all Units	£395
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**Summary Information**

Electricity Cost/kWh	£0.065	Site Pf	0.94Pf	Site Voltage	376V	Total kW of Motors Audited	15.00kW	kW/Year Savings Shown	2,897kW	kW/day Savings Shown on This Sheet	8.28kW	P/B Period in Years Based on SS & MEC's	2.10 Years
		Days/Yr Motors Run	Days 350	Hours/Day Motors Run	Hours 8.00	Average Savings/Motor	13.00	P/B Period in Years Based on MEC's Only	2.10 Years				



Ding Li Slab Storage Facility Adjacent to the Cutting Room

Report compiled by  
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