

# 'Concrete' Benefits for Rugby Cement

*Condition Monitoring plays a major role in the Rugby Cement - South Ferriby Works strategy to reduce costs and maximise plant availability due to it reducing unnecessary maintenance and failures.*



*"We have recouped the cost of the MHC-Memo in its first day of use."*

Nigel Appleyard  
Mechanical Engineer

Critical plant units, including those which are of high capital value, production intensive or where a safety issue exists, have been successfully monitored for a number of years both in-house and by outside condition monitoring consultants using vibration, thermographic and lubricant analysis.

However the failure of other numerous smaller items can also have a serious impact on production output and profitability. In the past it has been customary to replace these items on a fixed time basis or in less critical areas, by operating to failure since this was a lower cost alternative than vibration monitoring using outside contractors.

In the on-going quest for minimising production costs and controlling of their assets, Rugby Cement has been pro-active in its pursuit of best practice on a broad front. One aspect of this drew upon training in CM technologies, which Nigel Appleyard (the Mechanical Engineer at South Ferriby) has had at the University of Manchester as part of the development of his personal skills. The Maintenance Engineering IGDS course involved an objective appraisal of all the capabilities of all CM technologies and as a result Nigel was able to recommend the AE technique as being simple and quick enough to be carried out in-house by available personnel.



A Holroyd Instruments MHC-Memo (a data logging AE instrument) was purchased following a successful on-site demonstration. The MHC-Memo is able to characterise the Distress® value (a powerful parameter unique to Holroyd Instruments) which can instantly reveal the condition of rotating machinery without the need for past history, speed

information or detailed internal design information. It is as simple as :

- Temporarily place the sensor on the machine
- Read the Distress® value on the display
- If it's greater than 10 there's a problem !

The MHC-Memo was delivered to South Ferriby shortly before a planned shutdown at which 24 motors on direct drive fans would normally have been replaced due to the time based maintenance strategy. These fans provide the air for fluidors which transport product from one part of the production process to the next. Whilst this replacement strategy is effective in preventing failures during the following 18 months of running it has an associated capital cost. Instead it was decided to carry out a one-off check of each motor prior to the shutdown using the MHC-Memo. This immediately revealed that 19 of the motors were OK and 5 had problems in view of their high Distress® values (ranging from 11 to 16). These 5 motors were replaced with new ones during the shutdown and when stripped down were revealed to all have significant bearing damage.

This first application of their MHC-Memo instrument is acknowledged to have been a major success since it only took a few minutes to take the measurements yet saved the cost of purchase and fitting of 19 motors without increasing the risk of an in-service failure - an important consideration since a single fan failure can result in a loss of up to 5 hours of production by the time the unit is replaced and the production process re-stabilised.



Following on from this success Nigel is looking at extending the application of the MHC-Memo to other machinery which, although critical to production, could not be economically monitored by outside CM consultants. The introduction of this new technology to Rugby Cement at South Ferriby has revealed a new and highly cost-effective way to maximise production whilst minimising production costs.

As Nigel said ... *"We have recouped the cost of the MHC-Memo in its first day of use."*

To find out more about how the MHC - Memo can transform your maintenance strategy contact :

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