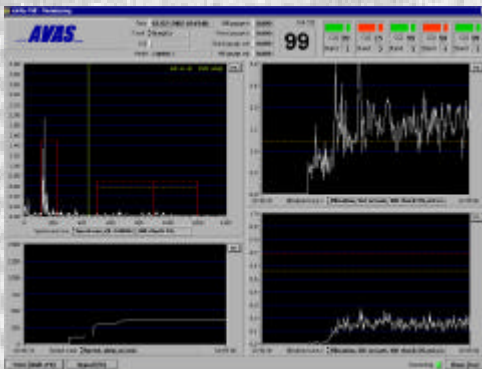


VIBRATION MONITORING SYSTEMS FOR: ROLLING MILLS ROLL GRINDING MACHINES



Our mill monitoring systems are specifically designed to help control and prevent strip marking vibration when rolling flat sheet on single stand or tandem cold reduction mills, temper mills and tension levellers



AVAS MILL MODULE

“front-line”, rapid response system for the detection of strip-marking vibrations. Designed to be an early warning system mainly for the benefit of the mill operator, and other shift personnel, who need to make on-the spot decisions and take immediate actions.

Features:

Bandpass filtering to continuously monitor and alarm 3rd and 5th – Octave resonant vibrations.

Tracking filters that follow mill speed to monitor and alarm speed-dependent vibrations.

Real time spectrum analysis for troubleshooting.

Transient monitoring for detection of back-up flats and loose couplings.

Level alarm for automatic mill slow-down.

Coil Quality Index (CQI) calculation based on measured vibration levels to provide pass/fail criterion.



AVAS TRACKING AND TRENDING MODULE

“back-room”, detailed analysis system designed to assist the technologist to identify and quantify the contributions of the major vibration sources, or excitors, to strip marking problems.

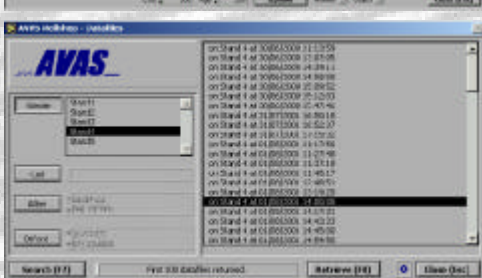
Features:

Harmonic signature detection and analysis for identification of potential excitors such as chock bearing defects, gear mesh vibrations, etc.

Tracking and alarming all potential mill excitors throughout a coil.

Trending levels of all potential mill excitors on a coil-by-coil basis.

Summary screen for “at-a-glance” alarm status.



The AVAS modules all run on standard PCs and can operate on a stand-alone basis or can be networked to a PC running the AVAS DATABASE MODULE, with which the data can be further searched and analysed using custom written queries.

Our roll grinder monitoring systems are available in either PC or instrument form and are designed to help the Roll Shop produce chatter-free rolls

AVAS GRINDER MODULE

A PC-based vibration monitoring system particularly suited to automatic or minimally manned machines.

Features:

Bandpass filtering to continuously monitor and alarm chatter instability in any number of critical frequency ranges.

Spectrum analysis for troubleshooting.

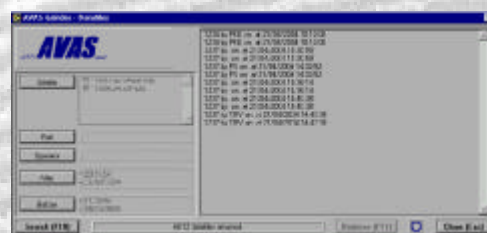
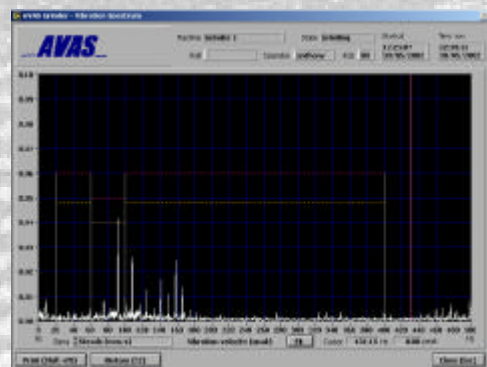
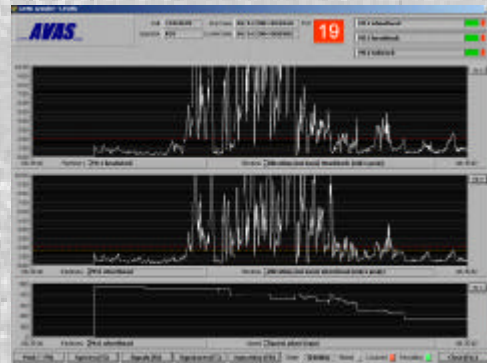
Transient detection via time history to reveal drive-related knocking, neck damage transients, etc.

Roll Quality Index (RQI) calculation to provide a simple numerical indicator of the likely quality of the roll surface. This is a cumulative figure that is calculated in real-time throughout the grinding process. End result can be used as a pass/fail criterion.

Level alarm to give instantaneous warning of chatter. Alarm status can be used in machine control system to initiate chatter avoidance (change of speeds, etc).

RQI alarm to give a final indication as to the likely quality of the finished roll. Can be used to warn operator that more passes may be desirable.

Data storage and retrieval without disturbing the monitoring process. Grinding vibration histories can be retrieved via a special search window at any time without losing any data being monitored.



VIBRATION MONITOR

A dedicated instrument specifically designed for manual machines. Front-panel bar-graph displays show the levels of vibration in the two critical grinder resonant frequency ranges in real-time.

A keypad and alphanumeric display allow the operator to enter roll number and data can be transferred to a data-acquisition system via a serial interface.

Includes level alarm and wheel balance facility.



The frequency bands and alarm thresholds of all our monitoring systems are determined and set during a visit to site for commissioning. This ensures that the systems are each carefully set up to suit the individual characteristics of a particular machine, thus minimising false alarms.

For further information contact Brian Hardwick:

Tel: +44 (0) 161 743 3531
 Fax: +44 (0) 161 743 3530
 Email: hardwick@univib.com
 Web: www.univib.com

