



## *Sustaining the Gains*

*Consistency in performance by achieving Basic Equipment Conditions*

*Hynds Pipe Systems is a privately owned NZ company which was founded from humble beginnings in 1973 based in John and Leonie's Hynds backyard. Today Hynds Pipe Systems employs more than 350 people, has 6 manufacturing sites and 16 branch outlets. Hynds was recently awarded the 'Manufacturer of the Year' and 'Business of the Year' at the Westpac Trust Manakau Business Excellence Awards.*

At the Annual TPM<sup>3</sup> Action 2002 Forum, David Jack, TPM<sup>3</sup> Co-ordinator, of Hynds Pipe Systems delivered an excellent and informative presentation on Operator Equipment Management stage 1 (OEM). The presentation covered what OEM means to Hynds Pipe Systems and how it worked in the reinforced cage manufacture area of No 5 Reinforcing.

### **How Did Operator Equipment Management Get Started?**

Dave explained how Hynds had started with two pilot areas, No 3 Factory and No 5 Reinforcing. Due to the sustained OEE increase in the No 5 Reo, from 37% to approaching 60%, the operators had time to complete Area-Based activities. The two shifts had completed Work Area Management (WAM) and started OEM Step 1.

The No 3 Factory has also had significant OEE gains, from 35% to around 50%, but had struggled to consistently maintain these gains. This has meant the two shifts had started WAM but at the time of the presentation had not been able to move into OEM.

### **Challenges The Team Faced!**

Dave outline six key challenges the team faced. These were:

- Work order system could not support finding and eliminating defects.
- No machine information.
- No parts reorder description.
- Operating procedures lacking information.
- Communication (Language).
- Justification for large spends.

These were addressed in the following ways.

### **Work Order system**

After the clean for inspection all 52 defects were entered into the normal work request system. The next day the Maintenance manger came to the daily meeting a bit flustered. How was maintenance going to deal with these work requests, especially as some would take more time to do the paperwork than fix? Another system needed to be found. Hynds leadership team decided to initiate a system where one work order was created each week, allocating time for maintenance to work on the defects. Defect tagging then became the system for operators to inform maintenance of small defects and problems on the machine.

### **Machine Manual**

During the teams' initial clean for inspection the No 5 Reo area developed four lists. Along with a defect, sources of contamination, and difficult to access area lists, there was also a list of questions. On reviewing the list of questions, the team found that the maintenance and operations employees called the machine parts different names or did not know what to call the parts or how some of the parts worked.

Literacy was an issue at Hynds and to add to this problem, the Reo machine when supplied from Korea came with very limited manuals, drawings and operating instructions (some were written in Korean). Previous Focussed Equipment & Process Improvement (FE&PI) teams found getting information from Korea difficult and the OEM teams decided to do something about these issues.

Twelve weeks later they were editing a final draft of a very comprehensive manual. The manual's contents, with extensive use of photos, diagrams and one point lessons, included:

- Introduction.
- Defect finding and tagging system.
- Zone name.
- Plant and equipment names.
- Cleaning and inspection procedures.
- Preventative maintenance schedules.
- Lubrication schedules.

The manual is backed by visual controls in the plant, for example direction arrows, clear tubing for cooling flow and oil level sight glasses.

## Visual controls



access to the equipment for maintenance and cleaning was enhanced rather than restricted and the team felt it was by far the safest option. These recommendations were taken back to the leadership team.

The leadership teams turned down the request. The team was devastated!

After some discussion and reflection the team realised that they had not conveyed the work they had done and justified the light curtain to the leadership team. The team reflected on this and persevered. After much discussion and two further opportunities for the team to justify the light curtain and answer the leadership teams questions, it was finally approved and installed.

## Visual control



What started out as a difficult issue became a positive learning experience for the leadership team and the OEM team.

### Summary

Through TPM<sup>3</sup> and in particular Operator Equipment Management, Hynds have found that people have become more approachable. There has been an improvement in trust between the shop floor and management, as well as between operations and maintenance. There has also been an increase in the skills of the people involved.

With these improved skills and working relationships there has been an increase in the abilities of operators and maintenance to tackle more difficult and technical issues.

During the teams follow up from the clean for inspection they found the existing guards did not allow for easy access to the equipment. They also found the existing guards did not comply with current OH&S (Occupational Health & Safety) regulations. These issues were brought to the leadership team and the team was asked to recommend solutions.

The team conducted extensive investigation. The OEM teams felt that despite a higher initial cost, a light curtain gave the best overall benefit to the company rather than physical guards or fences. The light curtain meant that



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# CALENDAR OF EVENTS

## INTRODUCTION TO TPM<sup>3</sup> (AUSTRALASIAN 3RD GENERATION TPM)

2 DAY INTERACTIVE WORKSHOP

Adelaide	2 & 3 March 2005
Brisbane	9 & 10 March 2005
Melbourne	17 & 18 March 2005
Sydney	31 Mar & 1 Apr 2005
Auckland	6 & 7 April 2005
Ulverstone	13 & 14 April 2005

## TPM<sup>3</sup> ACTION 2005

ANNUAL NETWORKING FORUMS

New Zealand	
TBA	26 & 27 May 2005
Australia	
TBA	8 & 9 Sept 2005

## TPM<sup>3</sup> PILLARS

SERIES OF THREE, 1 DAY WORKSHOPS

Auckland	4, 5 & 6 May 2005
Melbourne	11, 12 & 13 May 2005
Sydney	18, 19 & 20 May 2005

- Day 1 - Cross-Functional Core TPM<sup>3</sup> Pillar (FE&PI)
- Day 2 - Area-Based Core TPM<sup>3</sup> Pillars (WAM / OEM)
- Day 3 - Support TPM<sup>3</sup> Pillars (MEM / L&SI / NE/PM)

## TPM<sup>3</sup> INSTRUCTOR'S / LEADERSHIP COURSE

5 DAY LIVE-IN WORKSHOP

Wollongong	20 - 24 June 2005
Quality Hotel City Pacific	