

MCP CASE STUDY - WIRES



Warlo Flex: Warlo Flex gets wired up for lower costs better customer service with Preactor

Warlo Flex, the trading name of BGG Cable Manufactures (Pty) Ltd., based in Johannesburg South Africa, is the leading manufacturer of automotive cables in Southern Africa. Producing amongst other items, cables used in the assembly of automotive wire harnesses.

The automotive cables produced consist of different wire thicknesses which are coated with PVC. A cable coating can consist of a single colour or a main colour and stripe.



As Warlo Flex has grown additional items have been added to the sales catalogue. Currently around 4000 orders need to be scheduled to meet customer requirements. Warlo Flex operates in a make to order environment and, being in the automotive industry, need to meet tight delivery deadlines.

Amongst others, the following issues need to be considered when developing a schedule:

- urgent customer orders,
- the delivery date of standard orders,
- the grouping of orders by wire size, colour and stripe to minimize changeover time,
- and the selection of the correct extruder to run on e.g. one extruder can only do single colours, another is best suited to short runs.

Warlo Flex The increasing number of items being scheduled resulted in the task becoming more and more difficult to do manually. The less than optimum scheduling process resulted in decreasing customer service and unacceptable changeover scrap rates. The planner was taking up to two days to develop a schedule for the next week. As orders were received on a Friday this often required the planner to work on the weekend to schedule urgent orders.

In addition to the scheduling problems which were being experienced, a multi-fold increase in the price of copper in the last few years has made scrap more and more costly to the operation.

Company and product

Warlo Flex is the leading manufacturer of automotive cables in Southern Africa.

Key challenges

- 4000 orders need to be scheduled to meet customer requirements.
- Decreasing customer service and unacceptable changeover scrap rates.
- Planner was taking up to two days to develop a schedule for the next week.

Key Benefits

- Preactor allows the scheduler and factory management to easily and quickly consider alternate schedules when conditions change
- Improved customer service levels
- Increased production flexibility has also reduced the organizational tension that existed between the Production and Sales departments

Deon Mattheus, Technical Director of Walroflex described their situation:

"We realized that the only way to improve customer service, reduce stock holdings, reduce changeover scrap and the impact of errors was to improve the scheduling process. After reviewing different approaches and different scheduling software we selected Preactor 400 APS as the scheduling solution that would meet our requirements".

The Project

Lance Zikalala from Scheduling Solutions, the Preactor International Network Partner in Africa, worked with Walro Flex to understand the process and to develop a scheduling rule that would create a good schedule for orders that needed to be supplied by Walro Flex, while simultaneously taking all the operating constraints into account.



The scheduling rule developed consists of three key features viz. a campaign period, a look ahead period and colour sequencing. The scheduling rule requires that the scheduler sets the campaign period, which groups all orders in the campaign period together. The look ahead period ensures that any orders that should be grouped with those in the campaign period e.g. low volume orders, are also considered.

The orders are then scheduled on the appropriate extruder recognizing issues such as small runs, single colours and extruder availability in wire size, colour and stripe sequence. The colour sequence runs from light to dark to light, both for stripes within main colours and within main colours themselves, to minimize PVC and wire scrap at colour change. To ensure that the extruder does not run any single wire size, colour or stripe to the detriment of

customer service, the logic re-evaluates priorities after a set number of reels have been scheduled.

Walro Flex Extrusion schedules are then used to create production schedules in the bunching area, which in turn are used to create production schedules in wire drawing. This ensures that changes in the top level schedule are instantly catered for in lower level schedules.

As the parameters are easy to understand and change, it allows the scheduler and factory management to easily and quickly consider alternate schedules when conditions change.

Preactor has been integrated with a Wonderware based shop floor control system, to ensure that the status of production in progress is taken into account during the planning process.

The improvements in operations since the scheduling rule was implemented have been significant. Finished goods stocks have been reduced by 40%, changeover scrap has been reduced by 30%, stock excess to orders has fallen by 60% and the planning time has been reduced to a few minutes a day. Customer service levels have improved to the point that the only critical orders now being worked with are those introduced by customers as a result of late order changes. The "Critical Orders" list no longer exists.

"We now use Preactor to schedule all levels of the production process, for wire drawing, bunching and extrusion. It has delivered the benefits we expected"

Deon Mattheus, Technical Director

The increased customer service levels and increased production flexibility has also reduced the organizational tension that existed between the Production and Sales departments. Chris Mollison from Scheduling Solutions commented on the success of the implementation:

"It gives us great satisfaction to see Preactor being well used at Walro Flex, where it is not only delivering the promised benefits but has also improved organizational dynamics."

Key Benefit

Finished goods stocks have been reduced by 40% and changeover scrap has been reduced by 30%

Key Benefit

Stock excess to orders has fallen by 60% and the planning time has been reduced to a few minutes a day

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