Innovative Solutions from

Emhart Teknologies

A BLACK&DECKER COMPANY

Emhart engineers open the door to $60,000 in more profits with a custom designed POP® Riveting System.

Application:
Metal Garage Door

Challenge

A leading metal garage door manufacturer encountered a problem with a next generation door design. The company began experiencing joint failure due to strip-out of self-tapping screws used to fasten the hinge, stile, and pan. The failures resulted in additional expense due to warranty replacement costs. Emhart engineers were tasked with finding an effective yet economical solution to the design defect, one that could be successful within the framework of already purchased component tooling.

Customer Requirements

- Fastener to accommodate the current hole size
- Must satisfy wide range of material thickness
- Inventory reduction
- 320 lbs minimum joint tensile strength
- Cycle test >= 50,000
- Maintain production line speed of 60 ft/min non-stop

Solutions

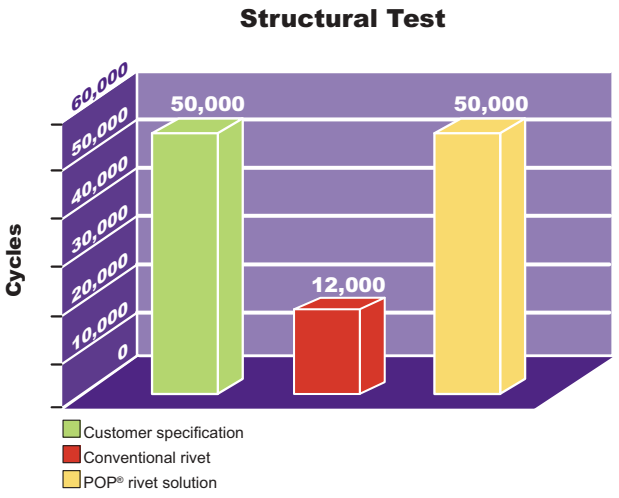
Emhart design engineers produced a custom POP® systems solution. The solution consisted of a multi-grip style POP® blind rivet to replace the self-tapping screw along with a semi-automatic feed Popmatic® Riveting System, efficiently meeting the application requirements. The multi-grip style POP® rivet will accommodate the current hole size and satisfy a wide range of material thickness, thus reducing the number of fasteners needed to a single size. The unique flange design provided the structural integrity required to pass the door cycle test. The Remote Rivet Presenter eliminates operator handling of rivets for increased productivity.

Features & Benefits

- Flange to accommodate large primary hole
- Ability to fasten over a wide grip range
- Reduced inventory requirements
- Fastener holds firmly following 50,000 cycle performance test
- Automatic feed through Popmatic® Remote Rivet Presenter
- Speed and reliability on assembly line at non-stop production rate of 60 feet per minute
- Reduced warranty and re-work costs

Cost Benefit Analysis

According to the customer, the Emhart POP® system solution resulted in over $60,000 per year in cost savings as they projected significant reductions in warranty.



EMHART TEKNOLOGIES • 50 Shelton Technology Center, Shelton, CT 06484 • Tel. (203) 924-9341 • Fax (800) 225-5614 • www.emhart.com

P478(11/04)