

Rigid foam for store displays



CASE STUDY

Challenge

Ronis Bros., manufacturer of dress forms and displays was using a 10 year-old low-pressure machine with dynamic mixer to pour foam into closed molds. The environment in the Ronis factory is harsh. The process requires sanding to finish the product, which creates a heavy layer of dust on any horizontal surface. The machine had gone through numerous upgrades which had not been installed at Ronis. Foam quality, increasing maintenance costs, and availability of spare parts prompted the search for a replacement machine. An estimated \$80,000 capital investment for similar equipment was not in the allotted budget.

Solution

Graco® and its distributor, FoamPak presented the Graco HFR Metering System™ and the Graco EP™ Pour Gun as a solution for their challenges while meeting their budgetary guidelines. The system was installed with a model EP250 gun (1/4 in (6.3 mm) rod) as the applicator. The set-up was changed to a model EP375 gun (3/8 in (9.5 mm) rod). The larger orifices allowed for increase in flow rate, which was needed to fill the mold and still account for the rise time of the foam. Ronis poured large parts at 6.9 MPa (69 bar, 1000 psi) for the first half day then had to increase the pressure to 8.3 MPa (83 bar, 1200 psi) in order to get a better mix on the smaller (200 cc) parts.

Results

The Graco HFR Metering System and Graco EP Pour Gun enabled Ronis to increase productivity, improve product quality and overall profitability. Since the new system is configured from standard parts, Ronis has increased uptime, and reduced overall cost of parts and labor. With the previous equipment, Ronis would add plastic to the small head molds (200 cc) to get satisfactory parts. With the new system, the foam mix quality has improved to the point where the plastic is no longer added to produce the high-quality parts that are required by their customers.



The system's Advanced Display Module (ADM) allowed Ronis to program multiple pour shots for multiple size molds. This eliminated downtime between line changeovers, increasing overall productivity and uptime. Having the ADM available in Spanish was a substantial added benefit for this facility.

For more information, contact us at 1-877-844-7226 or info@graco.com. Visit us at www.graco.com

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SPECIFICATIONS

END USER

Ronis Bros Manufacturing

INDUSTRY

Store Displays

APPLICATION

Mannequin molds / 2 lb pour foam

Material Specs

Name of Material – BASF Elastopor
15390R / Elastospray 8000A

Material Supplier

- BASF

Typical Properties

- Ratio: 1:1 by volume

GRACO EQUIPMENT

- Graco HFR Metering System™
- Graco EP375 Gun (3/8 in (9.5 mm) rod, 0.031 in diameter orifice)
- Decker® D40 / Liquid Control Low pressure machine

CONFIGURATION

- Part number: HFRA-14AMAMCCG
- Red side pump: 160
- Blue side pump: 160
- Heat zones: 3 heat zones (two in-line heaters & 13.8 MPa (138 bar, 2000 psi) single zone hoses)
- 3/8 in x 35 ft (9.5 mm x 10.7 m) heated
- 1/4 in x 10 ft (6.3 mm x 3 m) whip hose

Accessories:

- Casters
- T2 Feed Kit with 3/4 in (19 mm) feed hoses
- Circulation Kit with 3/8 in (9.5 mm) 241 bar (24 MPa, 3500 psi) hoses



The new gun eliminated the need for a hot water purge required on the dynamic mixer setup, which increased productivity and reduced the waste stream.