General Automatic Transfer Company (GAT) of St. Louis, Missouri, changed a principal component in its successful design/build finishing line when it replaced steel washer housings with Poly-Pro (polypropylene) extended-life housings.

Conventional steel housings develop oxidation and scale from use. Chemical reactions limit life expectancy for highproduction steel units to about 10 years and a maximum of 20 years for units having limited use. Other costs include maintenance costs for cleaning, repair and partial replacement of the units. In addition, rapid heat dispersal of the steel housing can cause significant heat loss, raising ambient temperature outside the unit.

Engineers researched alternative materials and construction options. Each

POLYPROPYLENE washer housing provides better lighting in the washer booths.



alternative studied presented a challenge. Stainless steel offered longer life expectancy, but it was costly for most users and had the same cleaning and heat dissipation drawbacks as steel.

Fiberglass is expensive to fabricate and prone to blistering and eventual delamination. Its tendency to retain moisture causes both maintenance and lifeexpectancy problems.

Polypropylene offers little structural strength and high coefficient of expansion. Also, it requires special construction solutions. However, polypropylene provides a virtually indestructible material for washer housings. The slick surface reduces scale buildup and, therefore, the need for frequent cleaning. The dense composition of the material solves moisture penetration problems inherent to fiberglass. The translucence allows the interior of the washer housing to be well lighted for improved visibility during operation and maintenance. The low heat-transfer quality results in reduced energy costs and greater employee safety and comfort. Polypropylene, with all its advantages, still posed design challenges.

GAT engineers solved the design problems with free-floating modular panes mounted in a steel frame. The frame has stainless steel interiors and a treated and painted exterior. The system is designed so that the polypropylene panels are mounted without the use of screws, bolts or welds. This allows for unrestricted expansion and contraction, avoiding stress, buckling and distortion. **PF** *For more data circle 282 on Postpaid Card Source:* General Automatic Transfer Co., St. Louis, Missouri.