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Controlling Quality without a Quality Department

Maintaining consistent quality is a priority for any manufacturer, elevating the perceived importance of the quality control department. Prism Plastics, however, takes a different approach to quality control. The company operates without a formal quality control department, a radical departure from convention. Deploying quality control resources before and during the manufacturing process, Prism achieves the precision, quality and consistency that make post-production quality control redundant.

Not having a quality control department seems surprising given Prism's work: creating precision-molded automotive plastic components used in various mission-critical contexts. But this strategy doesn't de-emphasize quality. A closer look at the specifics shows how proactive quality control can reframe traditional perspectives in manufacturing:

Proactivity—Traditional quality control is backwards-facing, with post-production reviews to monitor quality. Prism's approach turns that inside out, focusing on consistent quality throughout the design and manufacturing process, eliminating mistakes beforehand instead of checking for them after. This requires additional planning and resources, but results in higher quality, enhanced efficiencies and significant savings.

Commitment—Eliminating traditional quality control departments requires hard choices, including being selective about projects. From jobs and processes to technology, feasibility reviews must prioritize quality first. That mindset should be pervasive, extending beyond engineering and manufacturing to other departments, as well.

Metrics—One of the important roles of a traditional quality control department is measuring outcomes and applying standards and metrics to monitor quality and consistency. The need for measurables doesn't disappear with the department itself, and manufacturers should diligently collect and analyze KPI and process performance data.

Standardization—This is central to the quality-first model. Variability is the enemy of quality. More variables mean more opportunities for problems. Proactive quality control

requires processes, procedures and production equipment to be standardized within facilities across an organization.

Automation—Automation boosts consistency by reducing human errors. Prism runs automated manufacturing equipment, using process technicians to monitor production. This hands-off approach reduces the number of employees required to run the facility. Machine burden rates are higher, but it's offset by dramatically lower labor costs.

Accountability—A quality-first approach demands standards that exceed industry minimums and client expectations. Prism establishes variability parameters 30% more precise than client specifications. Accountability is a mindset: highlighting real-world outcomes and implications can have a meaningful impact, connecting the abstraction of individual parts to the performance of airbags or seatbelts.

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Consistency—Consistent products and performance require consistent processes. Manufacturers must follow an operational model that consistently delivers quality outcomes. Process-driven consistency requires organization-wide discipline and focus.

Manufacturing—Clean manufacturing environments are essential. Prism's facilities are precisely climate controlled (open doors can trigger environmental alarms) and manufacturing floors are more like operating theaters than industrial facilities. Facility design also matters: standardizing facilities makes infrastructure and processes functionally interchangeable, reducing variability.

This approach can yield dramatic results: Prism ships over half a billion parts annually, with a defect rate PPM of less than one. This is practically unheard of in a manufacturing setting. ↻