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## Small Parts Matter: Ensuring High Hygienic and Sanitary Standards with Proper Transfer and Pumping Tubing

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Sustaining consumer and production line safety while upholding hygienic and sanitary standards continue to be a challenge for cleaning chemical companies and equipment manufacturers. Cleaning chemicals are harsh and the equipment's inner parts must be selected and designed with chemical compatibility in mind. Protecting the equipment brand while considering cost effectiveness is another hurdle. How does an equipment manufacturer ensure long life in an application as challenging as cleaning chemical dispensing?

Safety and hygienic measures have been implemented in equipment design but in the end it's the cleaning chemical dispensing tubing that does most of the heavy lifting: it transports harsh chemicals from pump rooms, sometimes through walls and ceilings, to the application equipment. If the tubing fails, the resulting leak could ruin the piece of equipment or lead to more serious consequences to the human operating the tool.

In real-life operations, such as hospital or hotel laundry rooms, restaurant or bar dishwashing operations or in municipal water management facilities, maintaining hygienic and sanitary standards are of the utmost importance. This plays into these end users' rationales when considering what equipment to use to effectively perform these tasks. Since tubing plays such an integral role in chemical delivery, equipment manufacturers can safeguard the performance of their products through smart tubing selection.



### The Dispensing Process

The dispensing process is often similar across different industries as it relies on transfer tubing through the entire journey. Cleaning chemicals are stored in a tank, which connect into a peristaltic pump or pumps depending on the size of the operation via transfer tubing. Through the peristaltic pump(s), the chemicals are diluted with water and are then discharged through transfer tubing into equipment.

While this may sound somewhat straightforward, there are other factors at play. Chemical compatibility, flow rate stability and dosing accuracy are critically important considerations that determine not only tubing performance but also the equipment's service life. In large cleaning operations, chemicals may need to travel long distances which requires high pressure, another enemy of long service life. For manufacturers, long service life can help protect their brands while providing cost effectiveness to end users.

Challenges don't end there. While tubing must be resistant to harsh chemicals and high pressure, it also needs to be flexible enough to be installed in equipment that may be small or be unusually shaped. Solutions must be crafted to address all of these items, while also considering hygienic and safety standards around the world.

## Tailored Tubing Solutions

Using industry knowledge and expertise, Saint-Gobain has designed a line of products that not only meet these criteria but focus on optimized performance and long service line. For peristaltic pump tubing operations, Tygon® Chemical, Tygon® A-60-G, and Tygon® A-60-F offer excellent peristaltic pumping performance and chemical compatibility and flexibility which extends the service life of the tubing and reduces the risk of downtime due to tubing failure. The UV and ozone resistant feature of A-60-G will also not weaken or crack after years of exposure to heat and ozone, providing longer peristaltic pump life in industrial and institutional cleaning-chemical dispensing applications.

As for transfer tubing, Tygon® 2375-C, Tygon® 2375 C I.B. offer superior chemical resistance, allowing the transportation of harsh chemicals required for certain cleaning applications. Tygon®2375 C I.B. was designed with high pressure applications in mind and its robust, polyester braid reinforcement construction ensures a full vacuum rating, ideal for the suction/delivery side of any chemical transfer. Finally, both options were designed to be clear and highly flexible without the use of plasticizers, making this tubing environmentally friendly and facilitating safe disposal.

For equipment manufacturers whose end users prefers consistent dosing stability over other performance criteria, another option is Versilon™ SPX-50, which was created for use in applications where consistent flow stability is the most critical requirement. Produced from a proprietary combination of silicone elastomers, this flexible tubing optimizes critical physical properties such as tensile strength elongation and compression set, resulting in excellent dosing stability compared to other materials.

## Our Commitment to Safety and the Environment

Saint-Gobain shares the responsibility to build a better, safer environment for society. Our commitment to our partners is not only limited to excellent service, technical support or high performance but also to finding solutions that fit customers' needs and sustainability. As a co-development partner, our team of experts can help you find a solution for your specific needs and build a better product for all in the process.

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## About Saint-Gobain

**Saint-Gobain** designs, manufactures and distributes materials and solutions which are key ingredients in the wellbeing of each of us and the future of all. They can be found everywhere in our living places and our daily life: in buildings, transportation, infrastructure and in many industrial applications. They provide comfort, performance and safety while addressing the challenges of sustainable construction, resource efficiency and climate change. With 2017 net sales of more than \$49 billion, Saint-Gobain operates in 67 countries and has more than 179,000 employees.

**Saint-Gobain's Performance Plastics** business is headquartered in Solon, Ohio, and employs 6,000 people in 22 countries. It is a world leader in high-performance plastics, including flexible tubing, seals, coated fabrics, foams, window film, barrier/release films, tapes, medical components, fluid handling systems and bearings.

**Saint-Gobain's Process Systems** business unit helps customers achieve safety, performance and brand assurance through a broad range of capabilities that rely on superior engineering and customer support. Our product applications include those in the food, beverage, habitat, aerospace, chemical and electronics sectors. We've helped customers in all of these industries achieve goals in innovation, efficiency, sustainability and product integrity through customized solutions such as flexible tubing, gaskets, seals, hoses, fittings, pumps, valves and manifolds.

