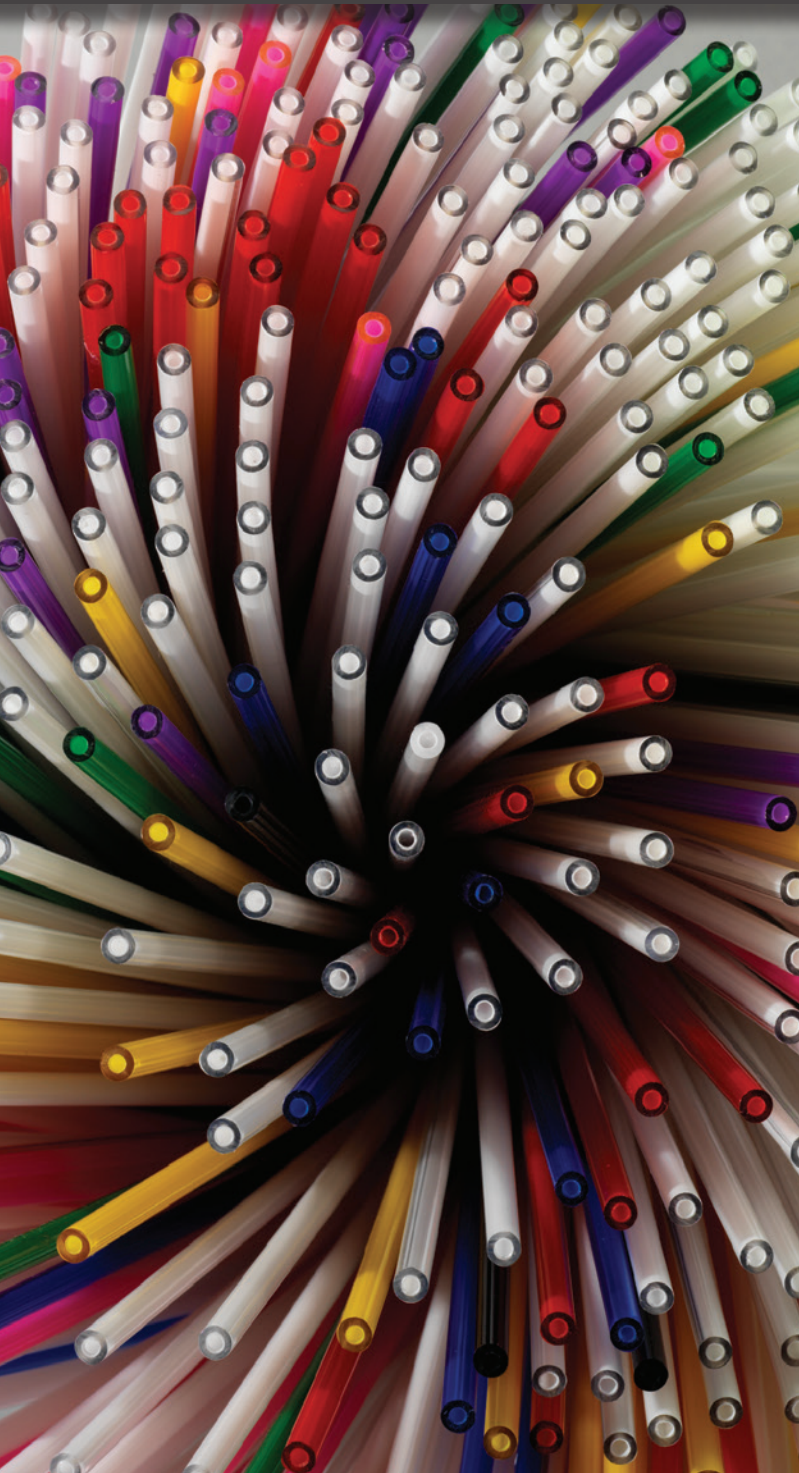


## Coextruded Healthcare Tubing



**E**xtruded tubing comes in many sizes, colors and materials. Most extruded tubing has only a single layer and most processors only offer single layer tubing. Monolayer tubing can only have the properties of a single material and may offer limited functionality. Coextrusion can modify the physical features of a tube to add visual appeal, surface lubricity, or physical strength. There are limitless possibilities of material combinations that can be realized using coextrusion.

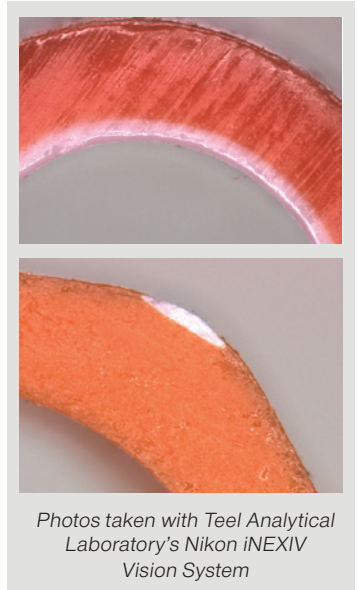
Coextruded tubing can offer physical performance enhancements

not available with monolayer tubing. Commonly, coextruded tubing is made with thin 0.051 mm–0.127 mm (0.002 in.–0.005 in.) layers on the inside and/or outside of the tube along with a thicker 0.127 mm–2.54 mm (0.005 in. –0.100 in.) more structural layer in the middle. The layers may either protect the middle layer material from damage, may protect the tube contents or user from contact with the material, or may add unique physical properties.

Another common use for coextrusion is the addition of a layer to provide a barrier for gas or moisture. Many common materials like polyethylene and polystyrene lack barrier properties. This means that vapors or gasses may permeate through the wall of the tube resulting in the contents slowly evaporating or outside elements, such as oxygen, entering. The addition of a barrier layer impedes this phenomenon.

Newly formulated materials can be coextruded with traditional tube materials. Specific surface conditioning is now possible with new resin formulations. Tubes with physical properties mimicking standard commodity products can be coextruded with layers of new formulations to offer solutions like low coefficient of friction, static dissipation and even anti-thrombogenic properties in a tube that otherwise appears to be indistinguishable from typical tubing.

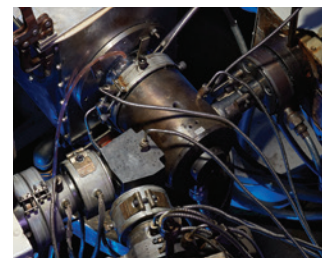
New devices are being designed every day. New materials are being formulated every day. Coextrusion can be a link to join these expanding technologies into future products.



*Photos taken with Teel Analytical Laboratory's Nikon iNEXIV Vision System*



Teel Plastics, Inc.  
1060 Teel Ct.  
Baraboo, WI 53913  
(608) 355-3080  
[www.teel.com](http://www.teel.com)





In 1951, Teel Plastics began producing custom plastic tubing and profiles. Since then we have become experts in a variety of applications targeting the medical, cleanroom, converting, water filtration, plastic packaging, and precision industrial markets.

### **Smart. Dedicated. Resourceful. Above all – Precise!**

The Teel difference is the extreme level of precision employees bring to their work. For six decades we have specialized in the custom extrusion of thermoplastic close tolerance plastic tubing and profile products.

We are proud of the innovative products we've brought to the markets we serve, like co-extruded tubing. We've combined our employee skills along with unique manufacturing techniques to earn a reputation as a proven leader of high quality, made-to-order plastic tubing, cores, profiles and natural fiber composite products.

### **Customer Satisfaction**

To achieve customer satisfaction we do something very simple. We listen. We strive to know each customer and are committed to identifying their needs, defining our capabilities and ensuring that we can satisfy those needs. We realize that continuous improvement is essential for our success. We work to anticipate trends and customer demands.

At Teel, we value our ISO 9001 certification and we facilitate total quality throughout our entire business to ensure customer satisfaction. *This methodology has resulted in a 99.72% on time delivery rating for our medical customers.*

### **Teel's Headquarters Accommodates Its Expanding Extrusion Division**

We are proud to say that the objectives of this project were shared by every member of the Teel Plastics team. We worked together to realize the design and building of an environmentally conscious 150,000 square foot facility focused on lean manufacturing. Lean manufacturing reduces waste, costs and production time while increasing customer satisfaction and quality.

### **Engineering Excellence**

We pride ourselves on having an engineering team that is one of the most experienced and innovative in the industry. We have on staff more than 200 years of engineering experience and degrees including: Industrial Technology, Tool Design, Chemical Engineering, Applied Sciences, Mechanical Engineering, Business Management, Mechanical Design and Manufacturing Engineering.

### **Quality**

Teel's Quality System has been certified to ISO 9001 standards since 1997. This system is an integral part of the business organization providing the foundation for growth and achievement of the company's vision. The system provides a method to have predictable results in production, new hire training and sustain documentation of best practices. Process control is also achieved with computerized SPC (Statistical Process Control) on all production lines. We strive to meet custom requirements for specific customers.

### **Analytical Lab**

Teel Plastics is continually focused on improving the services we offer our customers. We offer expanded analytical lab capabilities with a variety of instrumentation and test methods.



Dedicated and confidential lab services are available to you.

Our goal is to produce and deliver the highest quality product in the most cost efficient manner possible. Period. That is what makes Teel measurably better.



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