



DRAKE
Plastics Ltd. Co.

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RELEASE

FOR IMMEDIATE

Drake Plastics awarded “Seamless Tube[®]” Trademark

Drake Plastic Products Inc. has recently been awarded Trademark Registration 3,188,378 for Seamless Tube[®] by the United States Patent and Trademark Office. Drake Plastics is a specialty processor and technical marketer of advanced polymers.

The newly awarded Trademark is the ideal description of this unique capability in plastic processing. Seamless Tube technology was developed and commercialized by Drake Plastics to expand the capability of Torlon[®] PAI beyond rod. This has enabled a multitude of new applications in aerospace and other industries.

As the name implies, Seamless Tube has no seam, or weld line. It exhibits uniform flow through the cross section with the polymer orientation resembling a ‘barber-pole’.

This spiral flow attributes to outstanding hoop strength. Independent burst tests conducted by a Drake aerospace customer have consistently shown Seamless Tube has twice the rupture strength of tube machined from rod. Testing was performed on Torlon 5030, 30% glass-fiber reinforced PAI in a range of sizes.

The spiral flow orientation has also demonstrated improved wear resistance in bearing applications. This is the result of the polymer and fillers being oriented nearly parallel to bearing surface in most designs.

Seamless Tube is of particular value in the production of plastics with limited flow such as Torlon PAI and Carbon Fiber Reinforced PEEK. Extrusion and injection molding of Torlon and other low-flow polymers in traditional tube dies or edge-gated molds result in flow and weld lines. Weld lines often lead to cracking, porosity and dimensional stability problems.

In high volume OD/ID part applications, considerable cost savings are derived from Seamless Tube through reduced material consumption. Eliminating ID drilling for machined components further reduces manufacturing costs. The bar lengths Drake produces enable long parts while facilitating ease of fabrication and optimized yield.



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Torlon PAI from Solvay Advanced Polymers is often the right choice for applications where high loads, temperature extremes and wear resistance are required. Torlon is the strongest, stiffest melt-processable plastic available. It is stronger at 232°C/450°F than most plastics are at room temperature. Its thermal expansion mimics metals, eliminating fit and clearance problems. Torlon has a low coefficient of friction and exceptional wear resistance as well as low thermal conductivity.

Drake offers Seamless Tube in scores of sizes in all Torlon grades, and is extending the capability into specialty PEEK products such as Carbon Fiber Reinforced PEEK 450CA30. Custom sizes can be produced with low minimums, quickly and economically. Drake's current Torlon Seamless Tube capability ranges from 19 mm/0.75"OD to 140 mm/5.50" OD, with radial wall sections up to 38 mm/1.50". Standard lengths are 1220 mm/48.0".

Drake Plastics specializes in manufacturing advanced polymers such as PAI and PEEK as well as other high strength, high temperature plastics. Drake's process capabilities include extrusion, injection molding, and fabrication. Drake is a lean manufacturer with a quality objective of 'Perfection in Product and Service'. Drake Plastics was named after the English seaman, Sir Francis Drake. His flagship vessel, *The Golden Hind*, serves as the company's insignia.

Drake Plastics Ltd. Co, *The Torlon Specialists*, and Drake Research Ltd., *The Specialty PEEK Specialists*, are using the Seamless Tube Trademark under license from Drake Plastics Products Inc.

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Torlon® is a registered trademark of Solvay Advanced Polymers, LLC. For information contact Mark Wheeler at 770.772.8849 mark.wheeler@solvay.com.