

DuPont™ Crastin® SC193 PBT-SAN Resin for Healthcare Devices

Delivering High Stiffness and Creep Resistance for Demanding Applications



© DuPont

DuPont™ Crastin® SC193 PBT-SAN is a polybutylene terephthalate/styrene acrylonitrile resin blend with 30 percent glass fiber reinforcement. This high-performance, injection moldable material delivers high stiffness and creep resistance for enhanced dimensional stability under static loads and over an extended period of time. The addition of SAN, together with glass fiber, creates a more homogeneous shrinking pattern across the part for reduced warpage, while minimizing overall shrinkage.

As a healthcare material, DuPont™ Crastin® SC193 resin has been tested in accordance with relevant medical standards and is suitable for a broad range of sterilization methods.

Potential applications include self-administered drug delivery devices like auto injectors, especially those used for highly viscous biologics, which require higher injection force. DuPont™ Crastin® SC193 resin can also replace metal in surgical, dental and laboratory tools—particularly miniaturized tools like scalpels, drills or clamps that experience concentrated pressure and stress.

Market Trends

Healthcare trends such as the expanded use of high-viscosity, large-molecule biologics and the growing popularity of minimally invasive surgery share something in common—a need for durable, dimensionally stable materials that can withstand static load and permanent load, as well as the stress of injection or incision forces.

Although metal is one option for applications such as auto-injector pens and surgical tools, thermoplastics offer the advantages of lighter weight, greater design freedom and fast, cost-effective processing.

What is SC?

The SC designation in Crastin® SC193 stands for Special Control. DuPont SC resin grades experience a high amount of testing and offer a great degree of manufacturing control and broad regulatory compliance.

- Manufactured according to Good Manufacturing Practice (GMP)
- Food contact statements
- Testing against selected parts USP Class VI
- Testing against relevant parts ISO 10993
- Sterilization data
- Global availability

Target Applications

- Drug delivery devices
- Surgical, lab and dental tools

Target Customers

- Medical device OEMs
- Surgical and lab tool manufacturers
- Injection molders

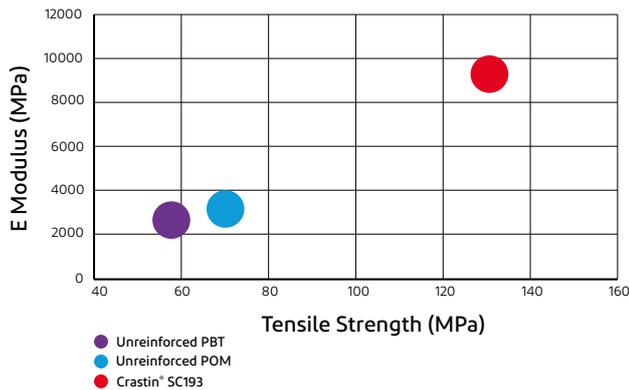
Features

- High strength—tensile strength of 130 Megapascals (MPa)
- High stiffness—tensile modulus of 9,500 MPa
- Excellent creep resistance
- Homogeneous, minimal shrinkage
- Custom colorable and printable

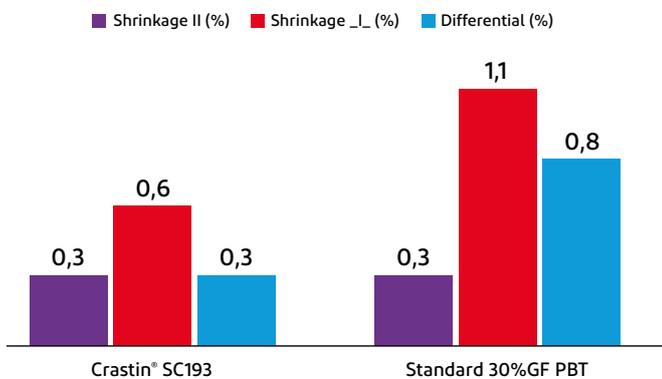
Benefits

- High performance for demanding applications involving significant load, injection stress and other forces
- Minimal deflection of spring-loaded parts
- Low warpage for dimensionally stable parts
- High strength-to-weight ratio to reduce operational strain on patients and surgeons
- Expanded design freedom vs. metal
- System cost reduction through high-volume injection molding
- Attractive finish for visual parts

Tensile Properties ISO 527



Shrinkage(%)



NO WARRANTY - PLEASE READ CAREFULLY

About DuPont

DuPont (NYSE: DD) is a global innovation leader with technology-based materials, ingredients and solutions that help transform industries and everyday life. Our employees apply diverse science and expertise to help customers advance their best ideas and deliver essential innovations in key markets including electronics, transportation, building and construction, health and wellness, food and worker safety. More information can be found at www.dupont.com.

© 2019 DuPont de Nemours, Inc. All rights reserved. DuPont™, the DuPont Oval Logo, and all products, unless otherwise noted, denoted with ™, SM or ® are trademarks, service marks or registered trademarks of affiliates of DuPont de Nemours, Inc.

The information set forth herein is furnished free of charge and is based on technical data that DuPont believes to be reliable and falls within the normal range of properties. It is intended for use by persons having technical skill, at their own discretion and risk. This data should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.

001-20269-PBU1119



www.dupont.com