Technical Data Sheet

ChronoFlex C™

| Aromatic Polycarbonate-based Urethanes

Product Description

ChronoFlex C is a family of Biodurable aromatic polycarbonate-based thermoplastic urethanes designed to overcome surface degradation such as stress-induced micro-fissures.

With a long history of reliable performance in both long- and short-term devices, this medical grade polymer has the versatility to be used across a broad range of applicational areas ranging from oncology and orthopedics to cardiovascular disease management.

These ether-free polyurethane elastomers are biostable and display a low modulus of elasticity, excellent solvent resistance and limited softening in-vivo.

These products are adaptable to most standard manufacturing processes and are available in hardnesses ranging from 75 Shore A to 75 Shore D.

General	**Key Features**	• Biodurable & Biocompatible • USP Class VI • Excellent Chemical Resistance • Low Modulus of Elasticity • Inherent Material Strength	• Animal-Free Origin Certified • Tailored To Meet Mechanical Specifications • Reliable Performance in Long- And Short-Term Implantable Devices
	Forms	• Pellet • Solution	
	Processing Methods	• Extrusion • Injection and Blow molding • Dip Coating • Solution casting • Film formation • Solvent coating methods	
	Common Applications	• Cardiology • Surgery • Endoscopic • Urology • Nephrology	• Neurology • Orthopedics • Drug Delivery • Diabetes Management • Gastroenterology • Ear/Nose/Throat

AdvanSource Biomaterials
229 Andover Street
Wilmington, MA 01887
Tel: 978-657-0075
www.advbiomaterials.com

FDA Master Files It is the responsibility of the user to establish safety with the FDA for their specific medical device.

Technical Data Sheet

ChronoFlex C™

| Aromatic Polycarbonate-based Urethanes

Technical Properties

Mechanical Characteristic Range

ChronoFlex C™ (typical example ranges shown)*			ASTM Standard
Durometer Range Available	75 Shore A – 75 Shore D		D2240
Water Absorption	0.25 – 1.00 %		D570
Melt Flow	2 – 26 g/10 min | 205° C/3.26 kg		D1238
Durometer	80A	75D	
Ultimate Tensile Strength (psi)	5500 – 11000	6000 - 12000	D638
Tensile (psi)			
@50% elongation	500 – 800	4600 - 5400	D638
@100% elongation	800 – 1000	4800 - 5800	D638
@200% elongation	1500 - 2000	7000 - 8500	
@300% elongation	3000 - 5200	-	D638
Ultimate Elongation (%)	400 - 750	200 – 350	D638

*Data provided herein is meant to show a general range for the ChronoFlex C product lines; these properties can be tailored to meet specific values based on customer requirements.

Biocompatibility Testing

TEST	USP Class VI	ISO GUIDELINE
MEM Elution		Meets ISO 10993-5 guidelines
AGAR Overlay		Meets ISO 10993-5 guidelines
Systemic Injection Test	Meets Class VI guidelines	Meets ISO 10993-11 guidelines
Intracutaneous Injection Test	Meets Class VI guidelines	Meets ISO 10993-10 guidelines
Intramuscular Implantation (macro)	Meets Class VI guidelines	
Phthalate Free		Does not contain or in contact with DEHP
Animal-Free Origin Certified		BSE/TSE free

Pre-Processing Recommendations:

ChronoFlex C processing can be optimized by drying to a moisture content equal to or less than 0.05% by weight prior to melt processing.

Typically, the pellets must be dried for 3-4 hours with a dryer inlet air temperature of 180ºF +/- 20ºF. We recommend a machine-mounted desiccant-type hopper dryer, capable of reaching and maintaining a dew point of -40ºF. If dry times are in excess of 8-10 hours, a hopper dryer temperature of 120-150ºF is usually sufficient to achieve optimal moisture content.

AdvanSource Biomaterials
229 Andover Street
Wilmington, MA 01887
Tel: 978-657-0075
www.advbiomaterials.com

FDA Master Files It is the responsibility of the user to establish safety with the FDA for their specific medical device.