Technical Data Sheet

ChronoFlex C™

| Aromatic Polycarbonate-based Polyurethanes

Product Description

ChronoFlex C is a family of medical-grade aromatic polycarbonate-based thermoplastic polyurethanes designed to resist in-vivo induced oxidative stress.

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 applications ranging from oncology and orthopedics to cardiovascular disease management.

These ether-free polyurethane elastomers elastomers with an excellent oxidative stability 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. Properties can be tailored to meet specific values based on customer requirements.

General	**Key Features**	• 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.

MITSUBISHI CHEMICAL GROUP

ChronoFlex C™

| Aromatic Polycarbonate-based Polyurethanes

Technical Properties

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

*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:

Tests: MEM elution, USP Class VI

The ChronoFlex C product line was pre-assessed for biocompatibility by testing representative grades in the product line. These grades were tested using a MEM Elution test and were considered non-cytotoxic. Additionally, these grades were tested for USP Class VI, and the test articles were determined to meet the requirements of the USP guidelines for Class VI Plastics – 70 ° C. Please reach out for more specific information.

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.