Technical Data Sheet

MITSUBISHI CHEMICAL GROUP

ChronoFlex AR™ | ChronoFlex AR-LT™

| Solution-based Polycarbonate Polyurethanes

Product Description

ChronoFlex AR and ChronoFlex AR-LT products are medical-grade aromatic polycarbonate polyurethanes designed for molding, casting and dip coating applications. These unique materials are fully synthesized in liquid providing superior strength & elongation while maintaining the inherent polycarbonate advantages of long-term durability and resistance to Environmental Stress Cracking (ESC). Additionally, they may be electrospun or used in water emulsion processes.

ChronoFlex AR & AR-LT polymers are ideal in applications requiring exceptional flexural endurance such as artificial heart diaphragms, vascular grafts, and other medical coatings.

ChronoFlex AR-LT demonstrates an inherent low-tack property, which allows for pulsatile flow in-situ, an innovative characteristic optimal for devices such as ventricular assist devices and artificial valves components.

This product line is offered in a wide range of viscosity/concentration configurations based upon specific product requirements.

General	**Key Features**	• Inherent Mechanical Strength • Low Thrombogenicity Self-Sealing • Superior Elasticity	• ESC Resistant • Animal-Free Origin Certified • Reliable Performance in Long- And Short-Term Implantable Devices • Low-Tack Property
	Forms	• Liquid Polymer	
	Processing Methods	• Dip coating • Solution casting • Film formation	• Solvent coating methods • Electrospinning
	Common Applications	• Cardiovascular • 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 AR™ | ChronoFlex AR-LT™

| Solution-based Polycarbonate Polyurethanes

Technical Properties

Mechanical Characteristics*	ChronoFlex AR™ | ChronoFlex AR-LT™			ASTM Standard
	Example Product	ChronoFlex AR	ChronoFlex AR-LT	
	% Solids (+/- 2%)	8% - 25%	8% - 25%	
	Viscosity (cps)			
	@ 8% Solids	100 - 800	200 - 1000	
	@ 22% Solids	10000 - 50000	15000 - 50000	
	Ultimate Tensile Strength (psi)	6500 - 13000	8000 - 13000	D638/D882
	Tensile Strength (psi)			
	@50% elongation	250 - 600	450 - 850	
	@100% elongation	400 - 1000	650 - 1200	
	@200% elongation	700 - 2000	1000 - 2300	
	@300% elongation	950 - 3500	1400 - 3500	
	Ultimate Elongation (%)	600 - 1000	500 - 1000	

*Data provided herein is meant to show a general range for the ChronoFlex AR and ChronoFlex AR-LT 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 AR and AR-LT products were pre-assessed for biocompatibility by testing a representative grade in the product line. This grade was tested using a MEM Elution test and was considered non-cytotoxic. Additionally, this grade was tested for USP Class VI, and the test article was determined to meet the requirements of the USP guidelines for Class VI Plastics – 70 ° C. Please reach out for more specific information.

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.