EASTMAN

Eastman Tritan™ copolyester for renal treatment device applications

(hemodialyzers, hemoconcentrators, and hemofilter housings)

Eastman Tritan™ copolyester for renal treatment device applications

(hemodialyzers, hemoconcentrators, and hemofilter housings)

Meeting the challenge

Microcracks in renal devices are not only an economic challenge for hospitals, clinics, and device manufacturers, but also a comfort and safety issue for the patient.

Typically, renal device housings can be compromised by tapping the device to remove air, mishandling or dropping the device, or applying aggressive chemical disinfectants. A tough and clear material that offers enhanced environmental stress cracking (ESC) resistance can help reduce microcracks and breakage.

For renal device brand owners and manufacturers, a material that does not require annealing and has excellent chemical resistance with good processability can help reduce overall system cost.

Clarity of the renal device housing is crucial for the patient's peace of mind. Sterilization can significantly impact device clarity.

Choosing the right material

Tough, clear, and durable Eastman Tritan™ copolyester is a superior alternative to polycarbonate (PC) for acute and chronic renal device housing applications. Tritan offers excellent resistance to common substances found in the renal treatment environment.

The glass-like transparency of Eastman Tritan™ copolyester delivers quality and provides peace of mind for healthcare professionals and patients. The clarity, color, and functional integrity of Tritan are not compromised after sterilization by gamma irradiation or e-beam radiation.

Striking the balance

Eastman Tritan™ copolyester is an innovative, new-generation copolyester that offers a balance of properties for renal device housing applications:

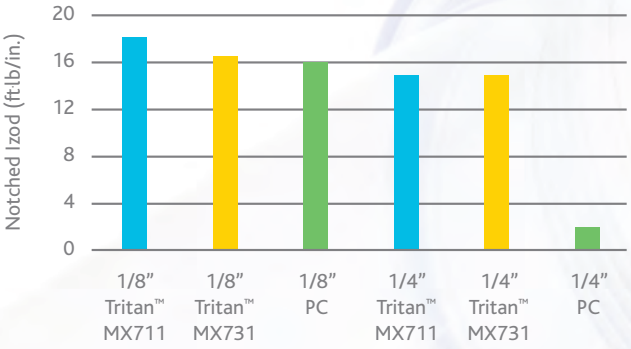
- Excellent resistance to aggressive chemicals and disinfectants
- Color and property retention after gamma and e-beam sterilization
- Regrind provides excellent property retention
- Shrinkage similar to PC — ability to use PC tooling with minimal or no modification required
- Sustainable — BPA, halogen, and phthalate-free
- No annealing required — low residual stress and excellent chemical resistance provides chemical resistance without annealing

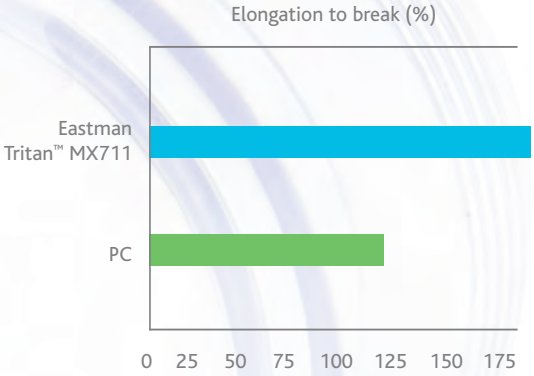
Chemical resistance based on break elongation values

Disinfectant	Tritan™ MX711 copolyester	Tritan™ MX731 copolyester	General-purpose medical-grade PC	High-flow medical-grade PC
Formaldehyde 4%	4	3	2	2
Glutaraldehyde 0.8%	4	3	2	2
Peracetic acid 3%	4	3	2	2
Bleach	4	3	2	2
Virex TB	4	3	2	2
IPA	4	2	3	1
Phenol	4 (0, 0.5%) 3 (⩾1.0%)	3 (0, 0.5%) 3 (⩾1.0%)	2 (0, 0.5%) 4 (⩾1.0%)	2 (0, 0.5%) 3 (⩾1.0%)
Lipid	4	3	3	2
Renalin	4	3	2	1

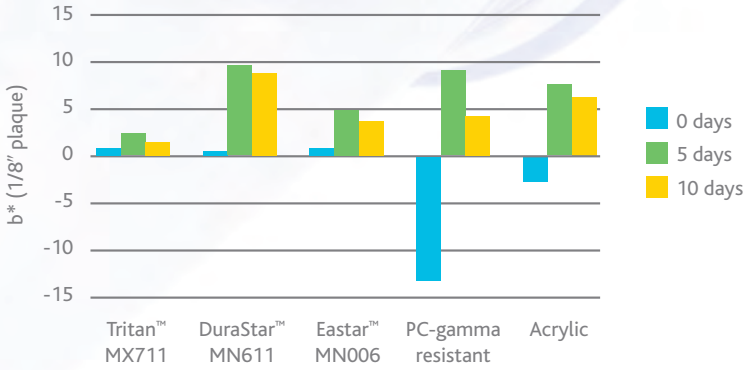
4 = highest
1 = lowest

Better impact and toughness — Notched Izod impact





Excellent color stability — Gamma sterilization



Heat aging — Eastman Tritan™ MX711 copolyester

	Tensile properties			1/8" Izod	
	Yield	Break	%	20 mil notch radius	
Test condition	(MPa)	(MPa)	Elongation	J/m	% Ductile
Initial	41.9	50.0	162	1117	100
2 h, 60°C	43.1	50.7	159	1102	100
20 h, 60°C	44.5	48.7	144	1099	100
200 h, 60°C	46.7	50.5	148	1087	100

The higher T_g of Eastman Tritan™ copolyester allows better stability during cure of potting compound and drying of fiber bundles, as well as stability during shipping and storage.

Contact Eastman today for more information about Eastman Tritan™ copolyester and how Eastman helps you find the best solutions for your medical devices.

EASTMAN

Eastman Chemical Company
Corporate Headquarters
P.O. Box 431
Kingsport, TN 37662-5280 U.S.A.

Telephone:
U.S.A. and Canada, 800-EASTMAN
(800-327-8626)
Other Locations, (1) 423-229-2000
Fax: (1) 423-229-1193

Eastman Chemical Latin America
9155 South Dadeland Blvd.
Suite 1116
Miami, FL 33156 U.S.A.

Telephone: (1) 305-671-2800
Fax: (1) 305-671-2805

Eastman Chemical B.V.
Fascinatio Boulevard 602–614
2909 VA Capelle aan den IJssel
The Netherlands

Telephone: (31) 10 2402 111
Fax: (31) 10 2402 100

Eastman (Shanghai) Chemical Commercial Company, Ltd. Jingan Branch
1206, CITIC Square
No. 1168 Nanjing Road (W)
Shanghai 200041, P.R. China

Telephone: (86) 21 6120-8700
Fax: (86) 21 5213-5255

Eastman Chemical Japan, Ltd.
AIG Aoyama Building 5F
2-11-16 Minami Aoyama
Minato-ku, Tokyo 107-0062 Japan

Telephone: (81) 3-3475-9510
Fax: (81) 3-3475-9515

Eastman Chemical Asia Pacific Pte. Ltd.
#05-04 Winsland House
3 Killiney Road
Singapore 239519

Telephone: (65) 6831-3100
Fax: (65) 6732-4930

www.eastman.com

Material Safety Data Sheets providing safety precautions, that should be observed when handling and storing Eastman products, are available online or by request. You should obtain and review the available material safety information before handling any of these products. If any materials mentioned are not Eastman products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed.

Neither Eastman Chemical Company nor its marketing affiliates shall be responsible for the use of this information, or of any product, method or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment and for the health and safety of your employees and purchasers of your products. NO WARRANTY IS MADE OF THE MERCHANTABILITY OR FITNESS OF ANY PRODUCT, AND NOTHING HEREIN WAIVES ANY OF THE SELLER'S CONDITIONS OF SALE.

MBS-591 2/10
Printed in U.S.A.