

Thermoplastic Elastomer Tubing (TPE)

Introduction

Repligen's TPE tubing is a new, translucent, weldable, and heat-sealable extrusion. Fully compatible with commercially available welders and sealers, as well as competitive TPE tubings.



Repligen TPE Product Features

- Sterile weldable and heat sealable
- Animal-derived component free
- Extractables testing completed per BPOG 2020 standards (post gamma irradiation > 45 kGy)
- Translucent with minimal color change post-irradiation
- Tube welding and tube sealing with other industry accepted TPE tubings.
- Operating pressures equal or greater than other weldable TPE tubing in the industry
- Improved performance in peristaltic pumps over other weldable TPEs

Steilization methods

- Gamma irradiation up to 45 kGy
- Autoclave 121°C for 60 minutes

Biocompatibility testing, all passed

- USP Biological Reactivity Tests, In Vivo (USP Class VI)
- ISO 10993-11 Systemic Injection Test
- ISO 10993-10 Intracutaneous Reactivity Test
- ISO 10993-6 Implantation Test
- Non hemolytic per ISO 10993-4, and ASTM F756



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Physical Properties Of Repligen TPE

Test	Standard	Repligen TPE
Specific Gravity	ASTM D792	0.89
Durometer, Shore A	ASTM D2240	63
Tensile Strength, PSI	ASTM D412	1230
Elongation, %	ASTM D412	800
Tensile Modulus @ 100%, psi	ASTM D412	297
Tensile Modulus @ 300%, psi	ASTM D412	548
Compression Set (22 hrs @ 70°C), %	ASTM D395B	27
Brittle Point - °C	ASTM D746	-66
Tear Strength lbf/in	ASTM D624B	197
Min Temperature - °F	Internal	-50
Max Temperature - °F	Internal	275

Properties tested post gamma irradiation (28-38 kGy)



Part number	Nominal tubing size	Inner Diameter		Outer Diameter		Nominal Wall Thickness (in)
		Inches	mm	Inches	mm	
RT 125 - 250	1/8" x 1/4"	0.125	3.18	0.25	6.35	0.0625
RT 250 - 375	1/4" x 3/8"	0.25	6.35	0.375	9.53	0.0625
RT 250 - 437	1/4" x 7/16"	0.25	6.35	0.438	11.11	0.0938
RT 250 - 500	1/4" x 1/2"	0.25	6.35	0.50	12.70	0.125
RT 375 - 625	3/8" x 5/8"	0.375	9.53	0.625	15.88	0.125
RT 500 - 750	1/2" x 3/4"	0.50	12.70	0.75	19.05	0.125
RT 625 - 875	5/8" x 7/8"	0.625	15.88	0.875	22.23	0.125
RT 750 - 1000	3/4" x 1"	0.75	19.05	1.00	25.40	0.125
RT 750 - 1125	3/4" x 1.125"	0.75	19.05	1.125	28.58	0.1875
RT 1000 -1375	1" x 1.375"	1.00	25.40	1.375	34.93	0.1875

