

+ Innovalene® 75E Medical Grade TPE Tubing

- Longest service life of Innovalene tubing material
- Excellent choice where PVC replacement and good chemical resistance is needed

Innovalene 66E is a thermoplastic elastomer tubing with a Shore A hardness of 65. It is colorless, highly transparent, and has extremely low extractables. It can be heat-sealed and welded. Due to the perfect biocompatibility verification, animal-free, sterilizable, and does not contain any plasticizers, it can replace polyvinyl chloride PVC hoses for in vitro diagnostic equipment, cell culture, and other medical and biological equipment. in the flow system.

Products and raw materials can be traced throughout the whole process, perfectly replacing similar imported products.

i Note

*Innovalene 75E is a TPE tubing grade with higher hardness at Shore A 75, and is also available upon customer's request.

+ Innovalene® 75E Product Specification

Medical Grade Tubing

Feature	Thermoplastic elastomer		
	• Alternative to PVC, no plasticizer • Chemical resistance, resistant to dye, detergent, vinegar, etc. • The inner wall is smooth without residue • -30 degrees to 130 degrees temperature range • Compliance with RoHS and REACH standards		
Caution	• Avoid folding • Avoid high temperature		
Material	• Thermoplastic elastomer		
Operating temperature range	-60 °C to +140°C		
Physical properties	Color	Colorless & transparent	
	Shore A Hardness ASTM D 2240	78A	
	Density ASTM D792	0.89 g/cm3	
	Tensile Strength at Break ASTM D 412	14.4 MPa	
	Tensile Elongation ASTM D 412	600 %	
	Tear Strength ASTM D 1004-94	45 kN/m	
	Permanent Compression Set 70°C 22Hrs ASTM D 395	80%	
Regulations and Certifications	FDA, ISO 10993, RoHS, REACH		
Sterilization	121 °C 30 minutes steam sterilization single pass ETO ethylene oxide sterilized single-shot 25kGy irradiation sterilization single time		
Gas permeability	$\frac{\text{CO}_2 \text{ 1200 Gas volume [cm}^3\text{] x wall thickness [mm]}}{\text{O}_2 \text{ 500 Inner Diameter Sectional Area [cm}^2\text{] x Time [sec]}} \times 10^{-10}$ $\text{N}_2 \text{ 100 x Pressure drop along pipe wall [cm Hg]}$		
Odor	none		
Toxicity	none		
Theoretical service life			

+ Innovalene® 75E to replace PVC tubing

PVC tubings have been widely used in many fields. However, such PVC products are hazardous to both the environment and personal health. The incineration of PVC containing these wastes results in the release of hydrochloric acid, and PVC is considered a major contributor to the source of hydrogen chloride in incineration flue gases. In addition, PVC may contribute to the formation of polychlorinated dibenzodioxins and furan toxins during incineration.

When using products made of PVC materials, how to avoid plasticizers in PVC from entering blood, food, beverages, or other liquids that are transmitted is also considered a potential risk that needs to be addressed. In order to produce flexible PVC products, it is inevitable to use plasticizers or processing aids. Exposure to these processing aids or plasticizers, such as diethyl phosphite (DEHP), raises many health concerns. Specifically, DEHP is suspected of reducing the oxygen-transporting capacity of platelets in the blood and is suspected of being reproductively toxic, especially to the reproductive system of young males. Therefore, in recent years, both at home and abroad have been researching and looking for solutions that can replace PVC tubings.

As a plasticizer-free thermoplastic elastomer TPE material, Innovalene 66E, as one of the perfect alternatives to PVC tubings, is being used more and more in more industries.

Cat. No.	Model	ID (mm) (inch)	OD (mm) (inch)	Wall Thickness (mm) (inch)	Per Package Length* (m) (foot)
L470-201-0050-0150	Metric size	0.50	1.50	0.50	15.2 50
L470-201-0079-0397	13#	0.79 1/32	3.97 5/32	1.59 1/16	15.2 50
L470-201-0100-0200	Metric size	1.00	2.00	0.50	15.2 50
L470-201-0150-0250	Metric size	1.50	2.50	0.50	15.2 50
L470-201-0100-0300	Metric size	1.00	3.00	1.00	15.2 50
L470-201-0159-0318		1.59 1/16	3.18 1/8	0.79 1/32	15.2 50
L470-201-0159-0476	14#	1.59 1/16	4.76 3/16	1.59 1/16	15.2 50
L470-201-0159-0635	119#	1.59 1/16	6.35 1/4	2.38 3/32	15.2 50
L470-201-0200-0400	Metric size	2.00	4.00	1.00	15.2 50
L470-201-0238-0556	19#	2.38 3/32	5.56 7/32	1.59 1/16	15.2 50
L470-201-0300-0500	Metric size	3.00	5.00	1.00	15.2 50
L470-201-0318-0476		3.18 1/8	4.76 3/16	0.79 1/32	15.2 50
L470-201-0318-0635	16#	3.18 1/8	6.35 1/4	1.59 1/16	15.2 50
L470-201-0318-0794	120#	3.18 1/8	7.94 5/16	2.38 3/32	15.2 50
L470-201-0397-0714		3.97 5/32	7.14 9/32	1.59 1/16	15.2 50
L470-201-0476-0794	25#	4.76 3/16	7.94 5/16	1.59 1/16	15.2 50
L470-201-0476-0953	15#	4.76 3/16	9.53 3/8	2.38 3/32	15.2 50
L470-201-0635-0953	17#	6.35 1/4	9.53 3/8	1.59 1/16	15.2 50
L470-201-0635-1111	24#	6.35 1/4	11.11 7/16	2.38 3/32	15.2 50
L470-201-0635-1270	26#	6.34 1/4	12.70 1/2	3.18 1/8	15.2 50
L470-201-0794-1111	18#	7.94 5/16	11.11 7/16	1.59 1/16	15.2 50
L470-201-0794-1270	35#	7.94 5/16	12.70 1/2	2.38 3/32	15.2 50
L470-201-0953-1270	96#	9.53 3/8	12.70 1/2	1.59 1/16	15.2 50
L470-201-0953-1429	36#	9.53 3/8	14.29 9/16	2.38 3/32	15.2 50
L470-201-0953-1588	73#	9.53 3/8	15.88 5/8	3.18 1/8	15.2 50
L470-201-1111-1429		11.11 7/16	14.29 9/16	1.59 1/16	15.2 50
L470-201-1270-1588		12.70 1/2	15.88 5/8	1.59 1/16	15.2 50
L470-201-1270-1905	82#	12.70 1/2	19.05 3/4	3.18 1/8	15.2 50
L470-201-1270-2223	88#	12.70 1/2	22.23 7/8	4.76 3/16	15.2 50
L470-201-1588-2064		15.88 5/8	20.64 13/16	2.38 3/32	15.2 50
L470-101-1588-2223	184#	15.88 5/8	22.23 7/8	3.18 1/8	7.62 25
L470-101-1588-2540	89#	15.88 5/8	25.4 1	4.76 3/16	7.62 25
L470-101-1905-2540		19.05 3/4	25.4 1	3.18 1/8	7.62 25
L470-101-1905-2858	191#	19.05 3/4	28.58 1-1/8	4.76 3/16	7.62 25
L470-101-1905-3175	91#	19.05 3/4	31.75 1-1/4	6.35 1/4	7.62 25
L470-101-2540-3175		25.40 1	31.75 1-1/4	3.18 1/8	7.62 25
L470-101-2540-3493	92#	25.40 1	34.93 1-3/8	4.76 3/16	7.62 25
L470-101-2540-3810		25.40 1	38.10 1-1/2	6.35 1/4	7.62 25

*Other calibers, lengths or packing methods can be customized