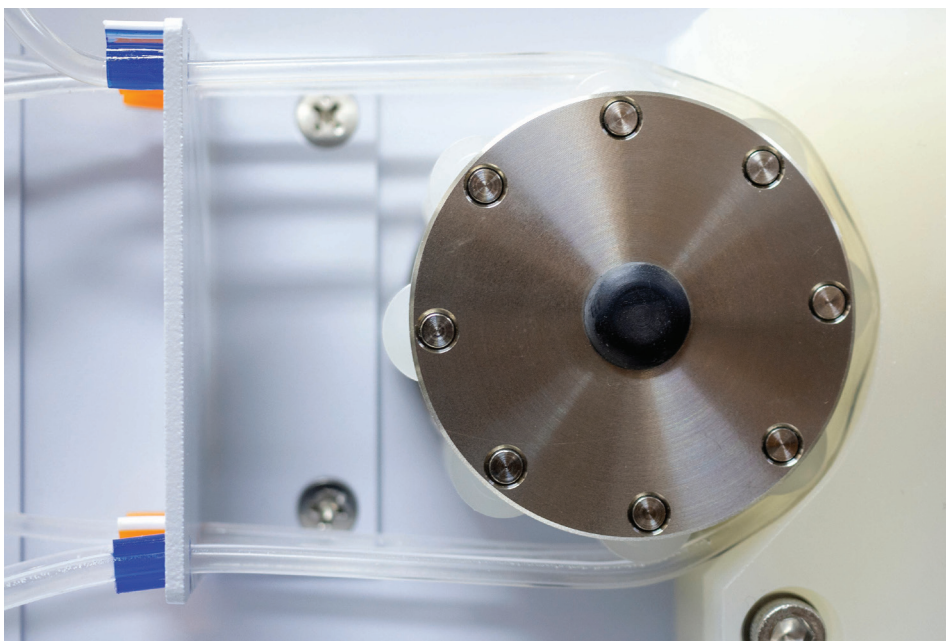




# Thermoplastic Elastomers (TPEs) for Biopharma Tubing



**Exceptional clarity. Reduced spallation. Extended pump tube life.** Transfer and pump segment tubing play a crucial role in the production of highly specialized biopharmaceutical medications. Choosing the right material is essential for optimal tubing performance. Our new MD-90000 series offer a wide range of advantages over traditional materials such as rubber and silicone, making Medalist® an outstanding choice due to its recyclability, ability to be processed using standard thermoplastic processing equipment, fast cycle times, generally lower unit cost on a volume basis, weldability, low permeability, low tackiness and wide-ranging regulatory compliance.

## Why Medalist® TPEs for Biopharma Tubing?

- **Clarity:** Overall, the MD-90000 Series is designed with optical clarity in mind. Moving beyond simply seeing fluid in motion to gaining clear visibility to the inside of the tube is something **MD-91970** does exceptionally well.
- **Reduced spallation:** While the entire MD-90000 series exhibits excellent resistance to spallation, minimizing the risk of particulate contamination, **MD-91760** offers an unbeatable combination of spallation resistance and clarity.
- **Compression set:** MD-91760 and MD-91970 deliver up to 50% better performance than other leading TPE biopharma tubing grades.
- **Biocompatibility and safety:** MD-90000 Series TPEs are made with FDA-compliant, biocompatible ingredients, free of DEHP, phthalates, BPA, latex, and animal-derived materials.
- **Sterilizable:** The MD-90000 series can be sterilized with a wide range of methods commonly used in the industry, such as EO, gamma, E-Beam, X-ray and autoclaving.
- **Excellent flexibility and durability:** MD-90000 series offers superior flexibility and durability, ensuring smooth fluid flow and long-lasting performance.
- **Chemical resistance:** Our TPEs are resistant to a wide range of chemicals, such as isopropyl alcohol, acids, bases, and disinfectants like chlorine and bleach.
- **Regulatory compliance:** The MD-90000 series is manufactured in an ISO 13485-certified facility and meets relevant standards such as USP Class VI and ISO 10993-5.

New Grades			MD-91760	MD-91970	MD-96267	MD-92260	MD-91255
Target Application			High-Performance Pump Tubing	High-Performance Pump Tubing	High-Performance Pump Tubing	Fluid Transfer & Pump Tubing	Fluid Transfer Tubing
Typical Properties	ASTM Method	Units					
Hardness (5s delay)	D2240	Shore A	63	72	65	62	58
Specific Gravity	D792	–	0.90	0.90	0.89	0.89	0.89
Tensile Stress at 100% Strain	D412	psi (MPa)	2.05	3.06	2.15	2.02	2.03
Tensile Stress at 50% Strain	D412	psi	1.73	2.57	1.86	1.61	1.59
Tensile Strength (Break)	D412	psi (MPa)	10.5	11.1	11.6	13.9	8.35
Tensile Elongation (Break)	D412	%	623	659	852	723	735
Tear Strength (Die C, 20 in/min)	D624	lbf/in (N/mm)	38.9	50.6	39.7	47.3	39.3
Compression Set 73°F (23°C), 22 hr	D395	%	15.8	19.6	38.7	15.2	20.8
Compression Set 158°F (70°C), 22 hr	D395	%	34.0	47.7	51.5	80.7	53.2
Melt Flow Index (200°C, 5 kg)	D1238	g/10 min	–	–	5	–	4
Melt Flow Index (230°C, 5 kg)	D1238	g/10 min	1	1	–	1	–
Spallation After 24 Hours	–	Spall Quantity (mg)	8	14	22	37	31
Comparative Clarity	–	(1 = Most Clear)	2	1	5	4	3

The Clear Choice: Medalist® MD-90000 Series TPEs for Biopharma Tubing

With a long history of providing high-quality materials for the healthcare industry, Teknor Apex is your trusted partner for reliable, innovative TPE compounds that meet your demanding standards.

Contact us today to discuss how Medalist® TPEs can meet your needs with enhanced clarity, reduced spallation, and extended pump tube life.

AMERICAS

505 Central Avenue  
Pawtucket, RI 02561  
401-725-8000  
800-556-3864

EUROPE

Mijnweg 1  
6167AC Geleen  
Netherlands  
31(0) 46 7020950

ASIA

41 Shipyard Road  
Singapore 628134  
(011) 65-6265-2544

| Version November 2024

The information and recommendations contained in this bulletin are, to the best of our knowledge, accurate and reliable but no guarantee of their accuracy is made. All products are sold upon conditions that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses and purchaser assumes all risks and liability for the results of use of the products, including use in accordance with seller's recommendations. Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or by others. There is no warranty of merchantability and there are no other warranties for the products described. For detailed Product Stewardship information, please contact us. Any product of Teknor Apex, including product names, shall not be used or tested in any medical or food contact application without the prior written acknowledgment of Teknor Apex as to the intended use. Please note that some products may not be available in one or more countries.

