



A Material Difference

Mediprene[®] 500M

TPE for Medical Applications - Transparent Series



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Introduction

The Mediprene 500M range of TPEs for medical applications includes several transparent grades. These compounds were developed in response to an increasing interest in transparent compounds from the medical market.

Mediprene TPE materials are PVC, silicone and latex free, making them allergen free and a viable alternative to PVC based compounds. They offer hardnesses from 30 to 90 Shore A, allowing a wide degree of design freedom.

The right TPE formulation is the key to a safe and successful medical product. When a standard formulation does not meet the needs of a unique application, we will apply our expertise in formulating a custom solution. In this guide we show typical properties for our most common grades, these tables do not list all available properties and materials.

Please use this guide as an introduction to the Mediprene 500M transparent series and [contact us](#) to discuss your specific requirements.

Special Features

- Good transparency
- PVC, silicone and latex free
- Soft-touch appeal
- 30 to 90 Shore A
- Coloured, transparent grades
- Production site is ISO 13485 certified
- Following the VDI 2017 guideline on Medical Grade Plastics
- Sterilizable with gamma, ethylene oxide (EtO)
- Flexibility over a broad temperature range
- Excellent sealing and adhesion

Regulatory Compliance

All Mediprene Transparent TPE Series compounds fulfil a strict raw material selection policy. The raw materials are food contact compliant (FDA 21 CFR and Commission Regulation (EU) No 10/2011) and have a proven level of biocompatibility:

- The styrenic block copolymer has passed USP Class VI
- The paraffinic oil is a medicinal white oil, complying with the European Pharmacopoeia for liquid paraffin and USP for mineral oils
- The polypropylene has passed the USP Class VI tests and meets the requirements in the EP Monograph 3.1.3 Polyolefins

Note: Mediprene grades are not to be used in any devices or materials intended for implantation in the human body.

[Further Information on Raw Material Policy + Change Control >](#)

Typical Applications

The ability to clearly see through a product to monitor the patient is an important feature for many medical applications such as face masks.

Mediprene Transparent TPEs can also be used in tubing and dental applications.



Coloured and Transparent Materials

In medical devices and pharmaceutical packaging colour is also often used functionally for product identification; to differentiate products with different uses or sizes. The vibrant colours achievable with coloured Mediprene TPE compounds allow brand owners to add value to their products and create visual appeal.

A blue or green colour is often used in medical transparent or translucent products to disguise the yellowing phenomena that can be caused by for example gamma sterilization.

The coloured transparent compounds are made from medical grade raw materials only. The colour masterbatch supplier has been selected with care, ensuring that not only the colorants and carriers are compliant with USP Class VI or corresponding parts of ISO 10993 but also that the masterbatches are manufactured under rigorous controls with regard to traceability, consistency and change control, thereby fitting the Mediprene concept at our ISO 13485 certified facilities.

Typical Grades

Grade	Hardness ASTM D2240 (4mm) Shore A	Colour	Density ASTM D792 g/cm ³	Tensile Strength ASTM D638 MPa	Stress at 100% Strain ASTM D638 MPa	Stress at 300% Strain ASTM D638 MPa	Elongation at Break ASTM D638 %	Tear Strength ASTM D624 N/mm	MFR ASTM D1238 g/10 mm
Mediprene 500302M	30	Transparent	0.89	6	0.6	1.2	600	20	25
Mediprene 500352M-03	35	Transparent	0.89	6	0.8	1.4	700	22	23
Mediprene 500402M-03	40	Transparent	0.89	6	0.9	1.8	650	25	15
Mediprene 500422M	42	Transparent	0.89	7	0.7	1.5	650	40	14
Mediprene 500452M-03	45	Transparent	0.89	6	1.1	2.2	550	26	20
Mediprene 500502M-03	50	Transparent	0.89	6	1.4	2.5	650	28	12
Mediprene 500552M-03	55	Transparent	0.89	7	1.4	2.8	600	29	12
Mediprene 500602M-03	60	Transparent	0.89	7	2.0	3.4	600	35	10
Mediprene 500652M-03	65	Transparent	0.89	7	2.5	3.8	600	36	8
Mediprene 500702M-03	70	Transparent	0.89	8	3.0	4.8	600	42	5
Mediprene 500752M-03	75	Transparent	0.89	9	3.3	4.8	500	43	5
Mediprene 500802M-03	80	Transparent	0.89	10	4.1	5.9	550	48	4
Mediprene 500852M-03	85	Transparent	0.89	11	5.0	6.5	500	58	5
Mediprene 500902M-03	90	Transparent	0.89	15	8.0	9.0	600	75	2

Processing

Mediprene 500M transparent series TPEs can be processed using standard thermoplastic processing methods, including injection moulding and extrusion.

Processing Temperatures

Barrel Temperatures °C

Mould Temperatures °C

Injection Moulding

150 to 210

20 to 40

Extrusion

140 to 180

Service Temperature Range

-50 to +100°C (unstressed material)

Adhesion to PP

Excellent

Presentation

Free flowing pellets that can be processed without predrying, when stored under normal conditions

[Further TPE Processing + Problem Solving Guides >](#)

More Mediprene TPE Ranges

Click for more information

Mediprene® 500M

Standard Series



Mediprene® 500M

Plunger Seal Series



Mediprene® A

2K

Mediprene® BM



Mediprene®



Mediprene® OF



Mediprene®

Solvent Bondable



Mass Balance



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