

MEDICAL GRADE TPE'S



Information provided in this document is for informational purposes only. It is not intended to be used as a substitute for professional advice. The customer shall use its own independent skill and experience in the evaluation of the material and its suitability for a particular application and accept the results at its own risk. ENTREC POLYMERS DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING FITNESS FOR A PARTICULAR PURPOSE. The customer shall use its own independent skill and experience in the evaluation of the material and its suitability for a particular application and accept the results at its own risk.

Entec Polymers offers medical grade thermoplastic elastomers from Enplast Americas. The EnFlex® MD4000 CL and MD5000 CL-Series products offer exceptional water like clarity, rubber like elasticity, and are compliant to ISO 10993-5 and can be processed by injection molding and extrusion. Because the EnFlex® MD5000 CL products offer higher melt strength they are very suitable for blow molding, film, sheet and profile extrusion. EnFlex® MD4000 CL and MD5000 CL-Series products can be sterilized by common sterilization methods, but gamma and autoclave sterilization are the preferred methods.

TPE TYPE: SEBS

PROPERTY	ASTM	UNITS	MD4045A CL	MD4050A CL	MD4055A CL	MD4060A CL	MD4065A CL	MD4070A CL	MD4075A CL	MD4080A CL	MD4090A CL	MD4040D CL	MD4050D CL
Hardness, Injection Molded, 10 sec.	D2240	Shore A	48	50	55	60	65	70	75	82	92	D 40	D 50
Hardness, Extruded, 10 sec.	D2240	Shore A	45	48	53	58	62	68	72	80	90	38	48
Density	D792	g/cm ³	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.9	0.91
Tensile Strength at Break	D412	psi	740	768	827	1233	1233	2200	2200	2200	2200	2350	2697
Elongation at Break	D412	%	745	725	625	600	600	700	700	700	600	500	300
100% Modulus	D412	psi	160	169	188	218	276	392	392	820	850	858	948
Tear Strength	D624	lbs./in	140	140	140	140	140	200	200	290	296	307	410
Compression Set 22 hr./23°C	D395B	%	16	16	16	15	15	35	35	35	38	45	60
Compression Set 22 hr./70°C	D395B	%	46	46	46	45	45	65	65	65	70	78	79
Brittleness Point	D746	°C	-65	-65	-65	-65	-65	-60	-60	-60	-60	-50	-40
Dynamic Service Temperature	---	°C	90	90	90	90	90	90	90	90	90	110	110
Melt Flow Rate, 230°C/2.16 kg load	D1238	g/10 min.	8	8	8	8	3	8	8	8	8	12	15

TPE TYPE: SEEPS

PROPERTY	ASTM	UNITS	MD5045A CL	MD5055A CL	MD5065A CL	MD5090A CL
Hardness, Injection Molded, 10 sec.	D2240	Shore A	45	55	65	94
Hardness, Extruded, 10 sec.	D2240	Shore A	43	52	62	90
Density	D792	g/cm ³	0.89	0.89	0.89	0.89
Tensile Strength at Break	D412	psi	768	768	2218	4350
Elongation at Break	D412	%	725	725	725	1400
100% Modulus	D412	psi	169	169	435	---
Tear Strength	D624	lbs./in	140	140	200	---
Compression Set 22 hr./23°C	D395B	%	16	16	20	---
Compression Set 22 hr./70°C	D395B	%	46	46	56	46
Brittleness Point	D746	°C	-65	-65	-65	---
Dynamic Service Temperature	---	°C	90	90	90	---
Melt Flow Rate, 230°C/2.16 kg load	D1238	g/10 min.	8	8	4	4

Common applications for EnFlex® MD4000 CL and MD5000 CL-Series products include medical hose and tubing, bags and respirators.

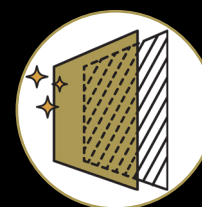


PROCESSING CONDITIONS

INJECTION MOLDING	UNITS	VALUE
Drying temperature for 2-3 hours (if needed)	°F / Hours	150 - 160
Rear Zone Temperature	°F	340 - 390
Middle Zone Temperature	°F	350 - 410
Front Zone Temperature	°F	375 - 430
Nozzle Temperature	°F	390 - 445
Melt Temperature	°F	390 - 430
Mold Temperature	°F	50 - 120
Injection Speed	---	Fast

EXTRUSION	UNITS	VALUE
Drying temperature for 2-3 hours (if needed)	°F / Hours	150 - 160
Feed Throat Temperature	°F	320 - 350
Feed Zone Temperature	°F	340 - 375
Compression Zone Temperature	°F	355 - 390
Metering Zone Temperature	°F	375 - 410
Die / Adapter Temperature	°F	375 - 410
Melt Temperature	°F	375 - 390
Cooling Water Temperature	°F	60 - 85
Screw Speed	rpm	100 - 200
Screen Pack	---	20 / 40 / 60

ADVANTAGES



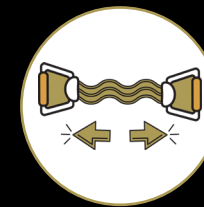
Excellent
Transparency



Excellent
Clarity



Excellent
Flexibility



Excellent
Elasticity