

# ProvaMed<sup>®</sup> TPE

			1120	1140	1158	1160	1180	1060	1070	1080
	Unit	Method <sup>1</sup>								
<b>Physical Properties</b>										
Specific Gravity	[g/cm <sup>3</sup> ]	ISO 1183	0,90	0,90	1,00	0,88	0,89	0,89	0,90	0,91
Melt Flow Rate										
160 °C, 2,16 kg	[g/10min]	ISO 1133	12	-	-	-	-	-	-	-
190 °C, 2,16 kg	[g/10min]	ISO 1133	-	11	-	11	18	-	-	-
190 °C, 5,00 kg	[g/10min]	ISO 1133	-	39	35	80	75	5	7	4
230 °C, 2,16 kg	[g/10min]	ISO 1133	-	-	-	-	-	8	8	6
<b>Mechanical Properties</b>										
Hardness										
Shore A	[-]	ASTM D 2240, 5 s	20	40	58	60	80	60	70	80
Shore D	[-]	ASTM D 2240, 5 s	-	-	12	14	21	15	18	26
Tensile Strength	[MPa]	DIN 53504	1,3	3,8	5,4	6,8	9,0	9,0	10,3	11,0
Elongation at Break	[%]	DIN 53504	900	930	1110	1010	990	1420	1090	690
Tensile Strength at 100% Elongation	[MPa]	DIN 53504	0,4	1,1	2	2,4	4,1	1,7	2,4	3,9
Compression set <sup>25 % Compression</sup>										
23 °C, 22 h	[%]	ISO 815	17	18	23	30	37	18	20	21
70 °C, 22 h	[%]	ISO 815	-	94	89	46	60	91	85	78
100 °C, 22 h	[%]	ISO 815	-	-	-	51	76	-	86	93
<b>Thermal Properties</b>										
Differential Scanning Calorimetry <sup>2</sup>										
Glass Transition <sup>3</sup>	[°C]	ADS - Method	-65	-55	-57	-63	-53	-40	-35	-13
Melting Point <sup>3</sup>	[°C]	ADS - Method	91	156	151	152	159	162	163	163
<b>Optical Properties</b>										
Transparency			transluc.	transp.	opaque	transluc.	transluc.	transp.	transp.	transp.
<b>Sterilization</b>										
Steam Sterilization <sup>4</sup> 121/134 °C			no/no	no/no	yes/no	yes/no	yes/yes	yes/no	yes/yes	yes/yes
Ethylene Oxide <sup>5</sup>			yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>
Gamma Radiation <sup>6</sup>			yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>	yes <sup>7</sup>
<b>Biocompatibility</b>										
USP VI			-	-	yes	-	-	-	-	-
ISO10993			yes	yes	yes	yes	yes	yes	yes	yes
<b>Processing Properties for Injection Molding</b>										
Processing Temperatures										
Hopper	[°C]		20-30	20-30	20-30	20-30	20-30	20-30	20-30	20-30
Barrel	[°C]		140-200	140-210	140-210	140-210	140-230	140-230	140-230	140-230
Nozzle	[°C]		170-210	180-220	180-220	180-220	190-230	190-230	190-230	190-230
Mould	[°C]		20-60	20-60	20-60	20-60	20-60	20-60	20-60	20-60

For additional information, please contact Actega DS GmbH at +49 421 39002-39

(1) According to

(7) See separate bulletin on sterilization

(2) Heating rate 10 K/min

(3) Melting peak from second heating cycle

(4) 15 min.

(5) 1 and 3 cycle with 270-500 mg/l

(6) 25 and 50 kGy