

			1120	1140	1158	1160	1180	1060	1070	1080
	Unit	Method ¹								
Physical Properties										
Specific Gravity	[g/cm ³]	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
Mechanical Properties										
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 ^{25 % Compression}										
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
Thermal Properties										
Differential Scanning Calorimetry ²										
Glass Transition ³	[°C]	ADS - Method	-65	-55	-57	-63	-53	-40	-35	-13
Melting Point ³	[°C]	ADS - Method	91	156	151	152	159	162	163	163
Optical Properties										
Transparency			transluc.	transp.	opaque	transluc.	transluc.	transp.	transp.	transp.
Sterilization										
Steam Sterilization ⁴ 121/134 °C			no/no	no/no	yes/no	yes/no	yes/yes	yes/no	yes/yes	yes/yes
Ethylene Oxide ⁵			yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷
Gamma Radiation ⁶			yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷	yes ⁷
Biocompatibility										
USP VI			-	-	yes	-	-	-	-	-
ISO10993			yes	yes	yes	yes	yes	yes	yes	yes
Processing Properties for Injection Molding										
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.

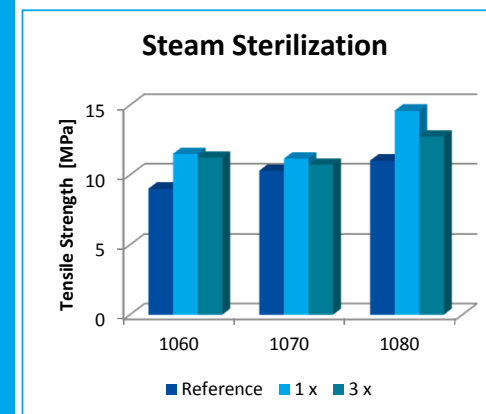
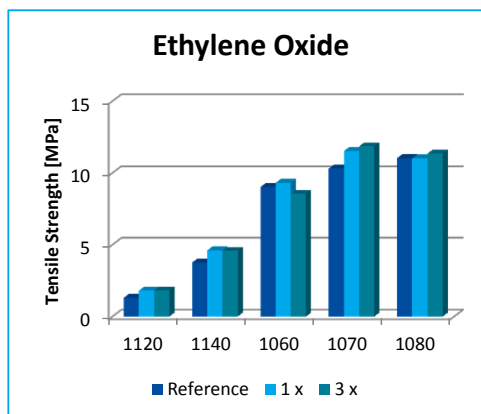
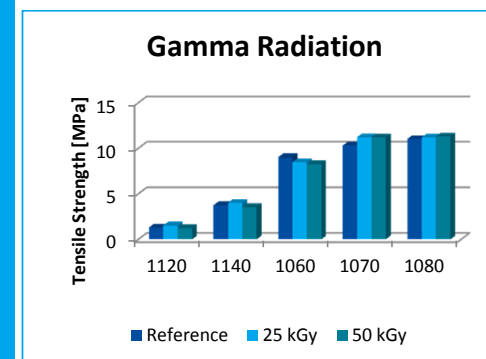
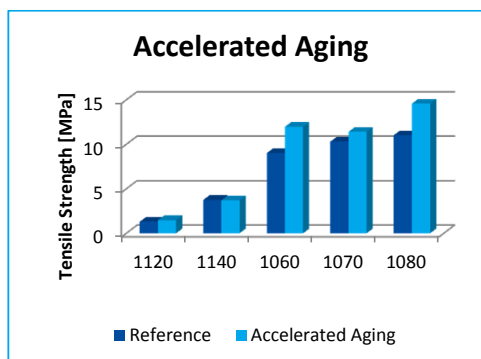
(5) 1 and 3 cycle with 270-500 mg/l

(6) 25 and 50 kGy

Material Properties after Aging and Sterilization

Type	Treatment	Tensile Strength [MPa]	Elongation at Break [%]	Tensile Strength at Elong. 100 % [MPa]
ProvaMed® 1120	Reference	1,3	900	0,4
	Accelerated Aging ¹			
	1 y	1,5	930	0,4
	Gamma Radiation			
	25 kGy	1,5	810	0,4
ProvaMed® 1140	Reference	3,8	930	1,1
	Accelerated Aging ¹			
	1 y	3,7	1050	1,0
	Gamma Radiation			
	25 kGy	4,0	900	1,0
ProvaMed® 1060	Reference	9,0	1420	1,7
	Accelerated Aging ¹			
	1 y	12,0	1380	1,8
	Gamma Radiation			
	25 kGy	8,5	1180	1,5
ProvaMed® 1070	Reference	10,3	1090	2,4
	Accelerated Aging ¹			
	1 y	11,4	1250	2,6
	Gamma Radiation			
	25 kGy	11,2	970	2,6
ProvaMed® 1080	Reference	11,0	690	3,9
	Accelerated Aging ¹			
	1 y	14,6	970	4,0
	Gamma Radiation			
	25 kGy	11,2	700	4,0

Tensile Strength



All statements given on this product overview are made to the best knowledge and current technical practice. This overview can not be consulted as specification. None of the information given can be taken as guaranteed. Suitability and qualification for certain applications have to be tested by the customer. Actega DS reserves the right to revise and alter any given information due to technical or specification changes.

(1) 3,7 wks at 60°C according to ASTM F1980 - 07

(2) 270-500 mg/l

(3) 15 min.