



Material Designation	Shrinkage Factor	Alloy Composition	Condition	YS Rp0,2 [Mpa]	UTM Rm [Mpa]	Elongation [%]	Hardness [HV]	Density min [g/cm <sup>3</sup> ]	Remarks
<b>Low Alloys</b>									
polyPOM FN02 MIM 2200	1.2160	Ni 1,5 - 2,5% C 0,1% max Fe Balance	Sintered	>150	>260	>20	>85 (45 HRB)	>7.5	--
polyPOM FN0205	1.2160	Ni 1,5 - 2,5% C 0,4 - 0,6% Fe Balance	Sintered	>255	>415	>15	>110 (62 HRB)	>7.55	Case hardenable
			Heat treated	>700	>1100	>5 >3	490-590 (48-55 HRC)		
polyPOM FN08 MIM 2700	1.2160	Ni 6,5 - 8,5% C 0,1% max Fe Balance	Sintered	>210	>380	>20	>120 (69 HRB)	>7.6	--
polyPOM FN0805 ---	1.2160	Ni 6,5 - 8,5% Mn 0,5% max C 0,4 - 0,7% Fe Balance	Sintered	>400	>700	>5	>150 (79 HRB)	>7.6	Case hardenable
			Heat treated	>1100	>1300	>3	300-510 (30-50 HRC)		
polyPOM 4605	1.2160	Ni 1,5 - 2,5% Mo 0,2 - 0,5% Si 1,0% max C 0,4 - 0,6% Fe Balance	Sintered	>400	>600	>5	>150 (79 HRB)	>7.55	Case hardenable
			Heat treated	>1100	>1300	>5	490-590 (48-55 HRC)		
polyPOM 8620 1.6523	1.2160	Mn 0,7 - 0,9% Ni 0,4 - 0,7% Mo 0,15 - 0,25% Cr 0,4 - 0,6% C 0,12 - 0,23% Fe Balance	Sintered	400	650	>3	>190 (90 HRB)	>7.40	Case hardenable
			Heat treated	--	--	--	650-800 (58-64 HRC)		
polyPOM 8740 1.6546	1.2160	Ni 0,5 - 0,8% Mo 0,25 - 0,4% Cr 0,4 - 0,6% Si 0,3 - 0,55% Mn 0,1% max C 0,45 - 0,55% Fe Balance	Sintered	>550	>700	>14	>200 (92 HRB)	>7.5	Heat treatment
			Heat treated	>1600	>1665	>0,3	>510 (50 HRC)		
polyPOM 42CrMo4 1.7225 MIM 4140	1.2160	Si 0,4% max Mn 0,9% max Mo 0,15 - 0,3% Cr 0,9 - 1,2% C 0,35 - 0,5% Fe Balance	Sintered	>400	>700	>3	>130 (71 HRB)	>7.45	Heat treatment
			Heat treated	>1250	>1450	>2	>450 (45 HRC)		
polyPOM 16MnCr5 1.7131	1.2160	Si 0,5% max Mn 1,0 - 1,3% Cr 0,8 - 1,1% C 0,14 - 0,19% Fe Balance	Sintered	>320	>380	>15	>120 (67 HRB)	>7.4	Heat treatment
			Heat treated	>600	>1050	>8	>380 (39 HRC)		
polyPOM 1006 mod.	1.2160	Si 0,15% max Mn 0,25% max Fe Balance	Sintered	170	305	>20	>85	>7,45	--
polyPOM 100Cr6 1.3505	1.2160	Cr 1,35 - 1,65% C 0,8 - 1,05% Fe Balance	Sintered	>500	>900	>5	>230 (97 HRB)	>7.4	Heat treatment wear resistant
			Heat treated	--	--	--	>700 (60 HRC)		
polyPOM 4340 1.6944	1,2160 1,1863	Ni 1,65 - 2,0% Mo 0,2 - 0,3% Cr 0,6 - 0,9% C 0,35 - 0,45% Fe Balance	Sintered	>500	>700	>11	>130 (71 HRB)	>7.5	Heat treatment
			Heat treated	>1400	>1620	>2	>450 (45 HRC)		

Material Designation	Shrinkage Factor	Alloy Composition	Condition	YS Rp0,2 [Mpa]	UTM Rm [Mpa]	Elongation [%]	Hardness [HV]	Density min [g/cm <sup>3</sup> ]	Remarks
<b>Soft Magnetic Alloys</b>									
polyPOM Fe3Si	1.2160	Si 2,5 - 3,1% C 0,1% max Fe Balance	Sintered	>300	>500	>20	>120	>7,55	Hc ~ 62A/m(ρ=7.60 g/cm <sup>3</sup> ) Br ~ 1.325 T (ρ=7.60 g/cm <sup>3</sup> ) Js (4 kA/m) ~ 1590 T (ρ=7.60 g/cm <sup>3</sup> ) μmax = 8.674 (ρ=7.60 g/cm <sup>3</sup> )
polyPOM FN50 1.3926	1.2160	Ni 49,5 - 50,5 % C <0,1% Fe Balance	Sintered	>150	>400	>20	>100	>7,85	Soft magnetic
polyPOM FN42	1.2160	Ni 41,5 - 42,5 % C <0,1% Fe Balance	Sintered	--	--	--	--	>7,85	Soft magnetic
<b>Stainless Steels</b>									
polyPOM 17-4PH 1.4542	1.2160 1.1669	Cr 15 - 17,5% Ni 3,0 - 5,0% Mn 1,0% max Si 1,0% max Cu 3,0 - 5,0% C 0,07% max Fe Balance	Sintered	>660	>800	>3	>320 (32 HRC)	>7.65	Hardenable ferromagnetic
			Heat treated	--	--	--	>370 (38 HRC)		
polyPOM 304L 1.4306	1.1669	Cr 18 - 22% Ni 8,0 - 12% Mn 2,0% max Si 1,0% max C 0,03% max Fe Balance	Sintered	>180	>480	>25	>120	>7.78	Non-magnetic, austenitic, corrosion resistant
polyPOM 316L 1.4404	1.2160 1.1669	Cr 16 - 18,5% Ni 10 - 14% Mo 2,0 - 3,0% Mn 2,0% max Si 1,0% max C 0,03% max Fe Balance	Sintered	>140	>450	>40	>120	>7.9	Non-magnetic, austenitic, corrosion resistant
polyPOM Ni free	1.1669	Cr 16,5 - 17,5% Mn 10,5 - 12,0% Mo 3,0 - 3,5% Si 0,8% max Ni 0,1% max Co 0,05% max C 0,15% max Fe Balance	Sintered	>690	>1090	>30	>250	>7,50	Austenitic Stainless Steel, good corrosion resistance
polyPOM 410L 1.4024	1.2160	Cr 12 - 14% Ni 0,3% max Si 0,2 - 1,0% Mn 0,5% max Mo 0,4% max C 0,06% max Fe Balance	Sintered	>170	>335	>20	>200	>7,55	Martensitic Stainless Steel, good corrosion resistance

Material Designation	Shrinkage Factor	Alloy Composition	Condition	YS Rp0,2 [Mpa]	UTM Rm [Mpa]	Elongation [%]	Hardness [HV]	Density min [g/cm <sup>3</sup> ]	Remarks
<b>Stainless Steels</b>									
polyPOM 420W 1.4028	1.2160	Nb 1,0 - 2,0% Mo 0,65% max Ni 0,6% max Cr 12 - 14% Mn 1,0% max Si 1,0% max C 0,35 - 0,5% Fe Balance	Sintered	>650	>800	>0,95	>600	>7.6	Martensitic Stainless Steel
			Head treated	--	>1560	>0,85	>730		
polyPOM 430 1.4016	1.2160	Cr 16 - 18% Mn 1,0% max Si 1,0% max C 0,12% max Fe Balance	Sintered	>200	>350	>30	>100	>7.5	Ferritic, non hardenable grade, magnetic, good corrosion resistance
polyPOM 440C mod. mod . 1.4125	1.1669	Nb 1,0 - 2,0% Mo 0,75% max Ni 0,6% max Cr 16 - 18% Mn 1,0% max Si 1,0% max C 0,85 - 1,0% Fe Balance	Sintered	--	>780	>15	> 350 (35 HRC)	>7.6	Martensitic
polyPOM Nitronic 50 ASTM XM-19; UNS S20910	1.1669	N 0,2% - 0,4% V 0,1 - 0,3% Mo 1,5 - 3,0% Cr 20,5 - 23,5% Mn 4,0 - 6,0% Ni 11,5 - 12,5% C 0,06% max Fe Balance	Sintered	>380	>570	>16	200 (190 HB)	>7,8	Austenitic, non magnetic, good corrosion resistance
polyPOM Duplex 2507 1.4410	1.1669	N 0,24% - 0,32% Cu 0,5% max. Mo 3,0 - 5,0% Cr 24,0 - 26,0% Mn 1,2% max. Ni 6,0 - 8,0% Si 0,20 - 0,80% W 0,5 - 1,0% C 0,03% max. Fe Balance	Sintered	>550	>800	>25	>40	>7,8	High corrosion resistance
polyPOM 420A	1.2160	Si 1,0 max. Mn 1,0 max. Cr 12,0 - 14,0% C 0,18 - 0,30% Fe Balance	Sintered	--	--	--	--	>7,3	Hardenable, martensitic
			Heat treated	>1300	>1600	>2	460 (48 HRC)		
HK30	1.1669	S 0,04%max. P 0,04% max. Mo 0,5% max. Mn 1,5% max. Si 0,75 - 1,75% Nb 1,2 - 1,5% Ni 19,0 - 22,0% Cr 23,0 - 27,0% C 0,25 - 0,35% Fe Balance	Sintered	>350	>500	>10	>200	>7,70	Austenitic

Material Designation	Shrinkage Factor	Alloy Composition	Condition	YS Rp0,2 [Mpa]	UTM Rm [Mpa]	Elongation [%]	Hardness [HV]	Density min [g/cm <sup>3</sup> ]	Remarks
<b>Tool Steels</b>									
polyPOM M2 1.3343	1.1669	Si 0,2 - 0,45% Mn 0,15 - 0,4% S 0,03% max P 0,03% max V 1,75 - 2,2% W 5,5 - 6,75% Ni 0,3% max Mo 4,5 - 5,5% Cr 3,75 - 4,5% C 0,78 - 1,05% Fe Balance	Sintered	>800	>1200	>1	520 (50 HRC)	>7,9	Heat treatment
			Heat treated	--	--	--	820 (64HRC)		
polyPOM S7 1.2355	1.1669	S 0,03% max P 0,03% max Mo 1,3 - 1,8% V 0,1 - 0,45% Cr 3,0 - 3,5% Mn 0,2 - 0,9% Si 0,2 - 1,0% C 0,45 - 0,55% Fe Balance	Sintered	--	--	--	--	>7,6	Hardenable
<b>Titanium Alloy</b>									
polyPOM Ti grade4	1.1450	O 0,4% max N 0,1% max C 0,2% max Ti Balance	Sintered	>480	>550	>5	>160	>4,3	--
polyPOM Ti6Al4V	1.1450	O 0,25% max N 0,05% max H 0,015% max Al 5,5 - 6,5% V 3,5 - 4,5% Fe 0,3% max C 0,08% max Ti Balance	Sintered	>750	>850	>6	--	>4,3	--
<b>Special Alloy</b>									
polyPOM AlloyHX	1.1484	Si 1,0% max Mn 1,0% max W 0,2 - 1,0% Co 0,5 - 2,1% Mo 8,0 - 10,0% Fe 17,0 - 20,0% Cr 20,5 - 23,0% C 0,05 - 0,1% Ni Balance	Sintered	>280	>610	>35	>140	>7,85	--
polyPOM IN718 1.4016	1.1515	Ni 50 - 55% Nb 4,7 - 5,5% Ti 0,65 - 1,15% Al 0,2 - 0,8% Mo 2,8 - 3,3% Cr 17 - 21 % C 0,03 - 0,06 % Fe Balance	Sintered 20°C	>1040	>1210	>20	200	>8,0	Heat resistance 1050°C
polyPOM IN713C 2.4671	1.1515	Nb 1,8 - 2,8% Ti 0,5 - 1,0% Al 5,5 - 6,5% Mo 3,8 - 5,2% Cr 12 - 14% C 0,08 - 0,2% Ni Balance	Sintered 20°C  650°C 850°C 1000°C	>820  >715 >335 >130	>1300  >995 >490 >165	>15  -- -- --	340  -- -- --	>7,8	Turbo charger grade (1050°C)

*All information made available in this document is based on our present knowledge and experience. The information provided does not relieve the processor of the obligation to carry out his own tests and trials due to the many factors which may affect the sampling, processing and application of our products. PolyMIM does not warrant certain properties or the suitability for a specific application which may be derived from the information provided in this specification. The recipient of our product must observe any existing industrial property rights as well as existing laws and regulations (08/2010).*

*Die Angaben in dieser Druckschrift basieren auf unseren derzeitigen Kenntnissen und Erfahrungen. Sie befreien den Verarbeiter wegen der Fülle möglicher Einflüsse bei Bemusterung, Verarbeitung und Anwendung unseres Produktes nicht von eigenen Prüfungen und Versuchen. Eine rechtlich verbindliche Zusicherung bestimmter Eigenschaften oder die Eignung des Produktes für einen konkreten Einsatzzweck kann aus unseren Angaben nicht abgeleitet werden. Etwaige Schutzrechte sowie bestehende Gesetze und Bestimmungen sind vom Empfänger unseres Produktes in eigener Verantwortung zu beachten (08/2010).*



Am Gefach

55566 Bad Sobernheim

Telefon: +49 6751 85769-0

Telefax: +49 6751 85769-5300

[info@polymim.com](mailto:info@polymim.com)