

Technical Data:

Product Description

Our metal injection molded (MIM) stainless steels provide superior corrosion, hardness, and wear resistance. We offer a variety of alloys, including 304, 316L, 17-4 PH, 420, 440C, 430L, PANACEA, and M-12 Chromium. These high-performance alloys are ideal for small, complex parts with tight tolerances across medical, aerospace, automotive, and more industries. MIM technology allows for complex geometries not easily achieved by other methods.

Features and Applications

Grade	Features	Applications
MIM-304	Excellent corrosion resistance, good formability and weldability, readily available	Equipment for food processing, pharmaceutical, architectural details, cryogenic vessels
MIM-316L	Improved corrosion and pitting resistance over 304, excellent weldability	Medical implants, pharmaceutical equipment, food processing equipment
MIM- 17-4 PH	High strength, good corrosion resistance, excellent wear resistance	Aerospace components, power generation parts, plastic injection molds
MIM- 420	High hardness and wear resistance, moderate corrosion resistance	Cutlery, surgical instruments, valves, gears
MIM-440CI	Highest hardness and wear resistance of stainless steels, moderate corrosion resistance	Bearings, valves, pumps, knives, cutlery
MIM-430L	Moderate corrosion resistance, easier to machine than 304/316	Appliances, architecture, automotive trim
MIM-PANACEA	Exceptional hardness, wear resistance, high temperature strength	Aerospace, power generation, tooling
MIM-M-12 Chromium	Excellent corrosion resistance, high strength	Pumps, marine hardware, fasteners, valves

Chemical Composition

Element	Cr	Ni	Mn	Si	C	Co	Other
MIM-304	18.50%	9.50%	1%	0.50%	0.05%	-	-
MIM-316L	17%	12%	1.50%	0.50%	0.02%	-	-
MIM- 17-4 PH	16%	4%	0.50%	0.50%	0.07%	-	-
MIM- 420	13%	0.50%	0.50%	0.50%	0.30%	-	-
MIM-440CI	17%	-	0.90%	0.50%	1.10%	-	-
MIM-430L	17%	-	0.50%	0.50%	0.08%	-	-
MIM-PANACEA	15%	4%	-	-	0.85%	4% Co	2% Mo
MIM-M-12 Chromium	12.50%	1%	0.50%	0.50%	0.10%	-	-

Physical and Mechanical

Alloys	Status	Tensile Strength	Yield Strength	Impact Strength	Hardness	Young's Modulus	Poisson's Ratio	Elongation	Density
		Mpa	Mpa	J	HRB	Gpa	Ratio	% in 25.4 mm	g/cm ³
MIM-304	as sintered	505	215	100	88	193	0.29	40	7.9
MIM-316L	as sintered	485	170	80	79	193	0.29	40	8

Note

The above data are reference material science data. This data reference is not binding and is not considered as authoritative test data. If your material requirements are extremely precise, please contact our material engineers. Tel | +86 18926788217 | Web | www.newayprecision.com | Contact Neway



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MIM- 17-4 PH	as sintered	1240	1170	30	38	200	0.29	10	7.8
MIM- 420	as sintered	1450	1340	25	58	200	0.29	5	7.7
MIM-440CI	as sintered	1900	1760	15	58	206	0.29	3	7.6
MIM-430L	as sintered	480	275	120	95	198	0.29	45	7.7
MIM-PANACEA	as sintered	1760	1650	20	52	220	0.29	5	8.1
MIM-M-12 Chromium	as sintered	760	580	55	35	190	0.29	25	7.7

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