

ERASTEEL



SUMMARY GRADES

ASP[®], BlueTap[®] and Evoloop[®] High-Speed Steels

ASP®, BlueTap® and Evoloop® High-Speed Steels



	GRADES		CORRESPONDING STANDARDS			COMPOSITION %					HARDNESS HB*	CHARACTERISTICS AND APPLICATIONS	COMPARATIVE PROPERTIES					GRADES
	ERASTEEL		USA AISI	Europe	DIN W.Nr	C	Cr	Mo	W	Co	V		SOFT ANNEALED	MACHINABILITY	WEAR RESISTANCE	TOUGHNESS	HOT HARDNESS	GRINDABILITY
ASP® without Cobalt	ASP® 2004	M4	PMHS 6-5-4	1.3361	1.43	4.2	5.0	5.8	-	4.1	270	Good wear resistance and hardness						ASP® 2004
	ASP® 2005	-	PMHS 3-3-4	1.3377	1.50	4.0	2.5	2.5	-	4.0	250	Good wear resistance and toughness						ASP® 2005
	ASP® 2008	-	-	-	1.08	4.0	2.5	2.5	-	1.8	260	1.8% Nb. Very good compromise between impact resistance, compressive strength and adhesive/abrasive wear resistance						ASP® 2008
	ASP® 2009	V9%	-	-	1.90	5.3	1.3	-	-	9.1	250	Wear resistance and toughness for plastics extrusion						ASP® 2009
	ASP® 2011	A11	-	-	2.48	5.3	1.2	-	-	9.5	270	V-alloyed with high abrasive wear resistance						ASP® 2011
	ASP® 2012	-	PMHS 2-2-2	1.3397	0.60	4.0	2.0	2.1	-	1.5	220	Very high toughness for hot and cold work						ASP® 2012
	ASP® 2023	M3:2	PMHS 6-5-3C	1.3395	1.28	4.0	5.0	6.4	-	3.1	260	Non Co-grade for cold work and cutting tools						ASP® 2023
	ASP® 2053	-	PMHS 4-3-8	1.3352	2.48	4.2	3.1	4.2	-	8.0	290	V-alloyed grade with good abrasive wear resistance						ASP® 2053
	ASP® 2062	M62	PMHS 6-11-2	-	1.30	3.8	10.5	6.3	-	2.0	290	High hot hardness, good abrasive wear resistance						ASP® 2062
ASP® with Cobalt	ASP® 2015	T15	PMHS 12-0-5-5	1.3251	1.62	4.0	-	12.0	5.0	5.0	280	High-W-alloyed grade for high performance tools						ASP® 2015
	ASP® 2030	-	PMHS 6-5-3-8	1.3294	1.28	4.2	5.0	6.4	8.5	3.1	290	Co-grade for high performance tools						ASP® 2030
	ASP® 2042	M42	PMHS 2-9-1-8	1.3247	1.08	3.8	9.4	1.6	8.0	1.2	270	Co-grade for bi-metal band saws						ASP® 2042
	ASP® 2048	M48	-	-	1.50	3.8	5.3	9.8	8.5	3.1	290	High alloyed for high performance cutting tools						ASP® 2048
	ASP® 2051	M51	PMHS 10-4-3-10	1.3207	1.27	4.0	3.6	9.5	10.0	3.2	280	For bi-metal band saws, with excellent wear resistance and toughness						ASP® 2051
	ASP® 2052	-	PMHS 11-2-5-8	-	1.67	4.8	2.0	10.5	8.0	4.9	290	High-W- and Co-grade for high performance tools						ASP® 2052
	ASP® 2055	-	-	-	1.69	4.0	4.6	6.3	9.0	3.2	290	2.1% Nb. High-alloyed Co-grade with good grindability						ASP® 2055
	ASP® 2060	-	PMHS 7-7-7-11	1.3292	2.30	4.2	7.0	6.5	10.5	6.5	340	For both, very high hot hardness and wear resistance						ASP® 2060
	ASP® 2078**	-	PMHS 7-7-7-11S	1.3292	2.30	4.2	7.0	6.5	10.5	6.5	340	High performance grade with improved machinability						ASP® 2078**
	ASP® 2190	-	-	-	1.75	4.2	2.9	2.9	29.0	1.1	400	1.1% Nb. High performance grade with very high Co-content for PVD coated gear cutting tools						ASP® 2190
Martensitic Stainless Steel	ASP® APZ10	-	-	-	1.25	19.0	2.1	-	-	0.8	280	Good corrosion and wear resistance						ASP® APZ10
	ASP® 420H	-	-	-	2.30	14.5	1.0	-	-	8.7	300	Good corrosion and high wear resistance						ASP® 420H
BlueTap®	BlueTap® Co	M35	PMHS 6-5-2-5	1.3243	0.93	4.2	5.0	6.3	4.8	1.8	260	Grade for taps with an excellent grindability						BlueTap® Co
	BlueTap® Max***	-	-	-	1.08	3.8	9.3	1.6	7.8	1.1	270	Unrivalled tap performance to TCO ratio						BlueTap® Max***
Evoloop® without Cobalt	Evoloop® M2	M2	HS 6-5-2C	1.3343	0.90	4.2	5.0	6.4	-	1.8	250	Grade for general applications, rolls included						Evoloop® M2
	Evoloop® ABC III	-	HS 3-3-2	1.3333	0.99	4.1	2.7	2.8	-	2.4	220	Grade for metal saws and wear parts						Evoloop® ABC III
	Evoloop® Grindamax™V3	-	HS 7-5-3	1.3347	1.17	3.9	5.2	7.2	-	2.7	260	Grade with excellent grindability						Evoloop® Grindamax™V3
	Evoloop® M4	M4	HS 6-5-4	1.3351	1.30	4.2	4.5	5.6	-	4.0	250	High wear resistance for cold forming and rolls						Evoloop® M4
Evoloop® with Cobalt	Evoloop® M35	M35	HS 6-5-2-5	1.3243	0.93	4.2	5.0	6.4	4.8	1.8	260	Grade for general applications						Evoloop® M35
	Evoloop® C8	-	HS 5-6-2-8	1.3209	1.05	4.0	6.0	5.0	7.8	1.6	260	High-Co-alloyed grade, high hot hardness, high wear resistance for end mills and milling cutters						Evoloop® C8
	Evoloop® MAT II	-	HS 1-5-1-8	1.3270	0.72	4.0	5.0	1.0	8.0	1.0	240	Grade for bi-metal saws with good toughness						Evoloop® MAT II
	Evoloop® M42	M42	HS 2-9-1-8	1.3247	1.08	3.8	9.4	1.5	8.0	1.2	270	Co-grade for cutting tools and bi-metal band saws						Evoloop® M42

* Typical soft hardness is... / Cold drawn or cold rolled material is typically by 10-40 HB harder | ** ASP® 2078 with 0.23% S | *** Wear resistance with PVD coating

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