

## ASP® AND HIGH SPEED STEEL GUIDE

	GRADES		CORRESPONDING STANDARDS				ANALYSIS, %					HARDNESS, HB*	CHARACTERISTICS AND APPLICATIONS
	ERASTEEL	USA AISI	Europe	DIN W.Nr.	C	Cr	Mo	W	Co	V	soft annealed		
ASP®, without Cobalt	ASP 2004	M4	-	-	1.40	4.2	5.0	5.8	-	4.1	265	Good wear resistance and hardness.	
	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 2009	V9%	-	-	1.80	5.3	1.3	-	-	9.1	250	Wear resistance and toughness for plastics extrusion.	
	ASP 2011	(A11)	-	-	2.45	5.3	1.3	-	-	9.5	280	V-alloyed with abrasion resistance.	
	ASP 2012*	-	PMHS 2-2-2	1.3397	0.60	4.0	2.0	2.1	-	1.5	230	Very high toughness for hot and cold work.	
	ASP 2023	(M3:2)	PMHS 6-5-3C	1.3395	1.28	4.1	5.0	6.4	-	3.1	260	Non-Co-grade for cold work and cutting tools.	
	ASP 2053	-	PMHS 4-3-8	1.3352	2.48	4.2	3.1	4.2	-	8.0	300	V-alloyed grade for abrasive wear resistance.	
ASP 2062	M62	-	-	1.30	3.8	10.5	6.3	-	2.0	290	High red hardness, good abrasive wear resistance.		
ASP®, with Cobalt	ASP 2015	(T15)	PMHS 12-0-5-5	1.3251	1.60	4.0	-	12.0	5.0	5.0	280	High W-alloyed grade for high performance.	
	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.	
	ASP 2042	M42	PMHS 2-9-1-8	~1.3247	1.08	3.8	9.4	1.5	8.0	1.2	280	Co-grade for bi-metal bandsaws.	
	ASP 2048°	M48	-	-	1.50	3.8	5.3	9.8	8.5	3.1	300	High alloyed for high performance cutting tools.	
	ASP 2051	M51	PMHS10-4-3-10	~1.3207	1.27	4.0	3.6	9.5	10.0	3.2	280	For bimetal bandsaws, with excellent wear resistance and toughness	
	ASP 2052	-	PMHS 11-2-5-8	1.3253	1.67	4.8	2.0	10.5	8.0	4.9	300	High W-alloyed grade for high performance.	
	ASP 2055	-	-	-	1.69	4.0	4.6	6.3	9.0	3.2	320	2.1% Nb. High alloyed Co-grade.	
	ASP 2060	-	PMHS 7-7-7-11	1.3292	2.30	4.2	7.0	6.5	10.5	6.5	345	For both hot hardness and wear resistance.	
	ASP 2078*	-	PMHS 7-7-6-11S	~1.3292	2.30	4.2	7.0	6.5	10.5	6.5	345	High performance grade with improved machinability.	
	ASP 2190	-	-	-	0.78	4.2	2.9	2.9	2.9	1.1	400	High performance high Co grade for PVD coated gear cutting tools.	
Martensitic Stainless Steel	ASP APZ10	-	-	-	1.25	19.0	2.1	-	-	0.8	280	Good corrosion and wear resistance	
BlueTap®	BlueTap® Co	M35	HS 6-5-2-5	1.3243	0.93	4.2	5.0	6.4	4.8	1.8	255	Grade for taps with an excellent grindability.	
	E M50	M50	HS 0-4-1	1.3325	0.84	4.0	4.2	-	-	1.1	225	Low alloyed grade for "do-it-yourself" drills.	
	E M2	M2	HS 6-5-2	1.3343	0.90	4.2	5.0	6.4	-	1.8	250	Grade for general applications, rolls included.	
	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.	
	E M3:2	M3:2	HS 6-5-3	1.3344	1.20	4.1	5.0	6.2	-	3.0	255	M2 upgraded for higher wear resistance.	
	Grindamax™ V3	-	HS 7-5-3	1.3347	1.20	3.9	5.2	7.0	-	2.7	265	Grade with excellent grindability, for taps.	
	EM4	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	
HSS, without Cobalt	E 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.	
	C8	-	HS 5-6-2-8	1.3209	1.05	4.0	6.0	5.0	7.8	1.6	270	8% Co-grade with improved hot hardness.	
	E 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.	
	E 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 and bi-metal bandsaws.	
	WKE 42	M51	HS 10-4-3-10	1.3207	1.27	4.0	3.6	9.5	10.0	3.2	280	Grade similar to M42 more wear resistance.	
HSS, with Cobalt	E 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.	
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\*Typical soft annealed hardness is... / Cold drawn or cold rolled material is typically 10-40 HB harder

\* ASP 2012 Si 1.0%, Mn 0.3%; \*ASP 2078 S 0.23; ° also available with sulfur

## Comparative Properties

Machinability, annealed

Wear resistance

Toughness

Hot hardness

Grindability



\*ASP 2012 Si 1.0%, Mn 0.3% ; \*ASP 2078 S 0.23

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