



ASP[®]



A reflection
of the benefits provided
by ASP steel to rolls
in cold-rolling mills



ERASTEEL

DEDICATED TO HIGH SPEED STEELS

Erasteel is the world's leading manufacturer of High Speed Steel. The production is located in France and Sweden and with sales companies all over the world, Erasteel has a strong local presence.

The use of high speed steel is being considered more often in rolls due to the high productivity demands in cold-rolling mills.

With our ASP steels, the performance of the rolls can reach extremely high levels. ASP is a powder metallurgical material, superclean and with a homogeneous structure.

ASP is a material with a unique combination of strength and wear resistance, properties required for rolls in cold-rolling.

FIVE STRONG REASONS TO CHOOSE ASP[®]

1

Better grindability compared to conventional steel with the same hardness and alloy content

Advantage: Less risk of thermal damage and form loss; higher production rates can be used.

Reason: Smaller carbides and a more homogeneous carbide distribution.

2

Uniform wear along the length of the roll

Advantage: No part of the roll is worn faster than the other.

Reason: A homogeneous carbide distribution.

3

Better wear resistance of the roll

Advantage: Rolls last longer.

Reason: Powder metallurgy steels can contain a much larger amount of small, hard carbides without compromising toughness.

4

Smaller regrinding depth

Advantage: Smaller cuts during regrinding means less time and longer roll life.

Reason: Absence of retained austenite means no deformation martensite.

5

Better strength

Advantage: Greater reductions can be used with a higher roll pressure.

Reason: Smaller carbides, fewer and smaller slag inclusions mean higher impact strength and higher bend strength.

ASP[®] is a registered trade mark of Erasteel.



Our Guarantee

All Erasteel products are produced with the finest steel and the latest technology to provide quality, repeatability and high-performance for roll makers and their customers

SMALL AND VERY HARD CARBIDES MEAN MAJOR ADVANTAGES

Compared with conventional high speed steel, ASP-grades have a more homogeneous structure with a large number of very small and hard carbides. This is a microscopic difference of great importance.

ASP steels combine in a unique way, high hardness with high strength. Properties especially suitable for rolls in cold-rolling mills.

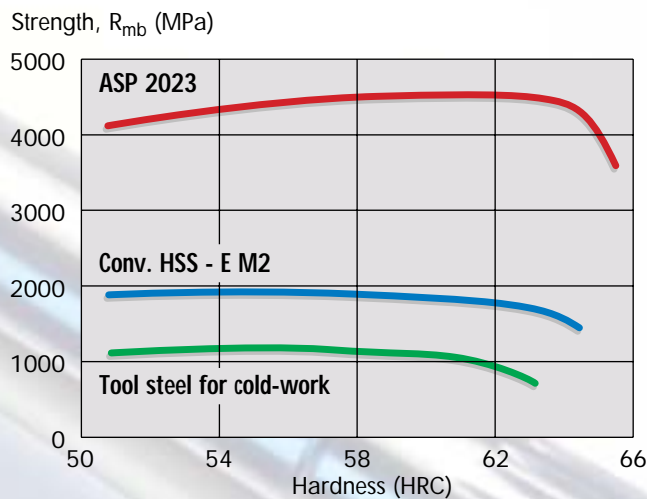
By changing to ASP you get quick pay-back in terms of higher productivity, longer roll life and better grindability.



Structure ASP steel, x 100



Structure conventional HSS, x 100



ASP steels combine high strength with high toughness (original dimension Ø 115 mm transverse direction 4-point test piece Ø 5 x 65 mm).

Erasteel offers ASP material for rolls in cold-rolling mills where very high toughness and wear resistance are needed

Application Cluster mills Four - Hi / Two - Hi	Erasteel PM grades	Composition						Hardness HRC
		C %	Cr %	Mo %	W %	V %	Co %	
Work rolls and first intermediate rolls	ASP 2005	1.50	4.0	2.5	2.5	4.0	60-64	
Work rolls	ASP 2023	1.28	4.0	5.0	6.4	3.1	60-66	
	ASP 2030	1.28	4.0	5.0	6.4	3.1	8.5	63-67

Conventionally produced high-speed steel for rolls

Application Cluster mills Four - Hi / Two - Hi	Erasteel conventional HSS grades	Composition						Hardness HRC
		C %	Cr %	Mo %	W %	V %	Co %	
Work rolls and first intermediate rolls	E M1	0.83	3.8	8.5	1.8	1.2	58-65	
	E M2	0.90	4.2	5.0	6.4	1.8	58-65	
Work rolls	E M4	1.30	4.2	4.5	5.6	4.0	60-66	
	E M7	1.02	3.8	8.6	1.8	1.9	60-66	



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