

## Latrobe HS-105, ç ASTM M35 DIN 1.3243 High Speed Steel

Category : Metal , Ferrous Metal , Alloy Steel , Carbon Steel , High Carbon Steel , Tool Steel

### Material Notes:

HS-105 high speed steel is a cobalt-modified M2 high speed steel in which the cobalt addition provides hot hardness that is intermediate between those of M2 and M42 high speed steels. The improved hot hardness makes the steel suitable for machining high-strength and prehardened steels, high-hardness alloys, and the difficult-to-machine, nonferrous superalloys used in the aerospace, oil, and power generation industries. Typical applications for HS-105 high speed steel include twist drills, taps, milling cutters, reamers, broaches, saws, knives, and hobs. Information Provided by Timken Latrobe Steel. Timken sold Latrobe in December 2006. They are now Latrobe Specialty Steels Co.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Latrobe-HS-105-ASTM-M35-DIN-13243-High-Speed-Steel.php](http://www.lookpolymers.com/polymer_Latrobe-HS-105-ASTM-M35-DIN-13243-High-Speed-Steel.php)

Physical Properties	Metric	English	Comments
Specific Gravity	8.14 g/cc	8.14 g/cc	
Density	8.14 g/cc	0.294 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	64.8	64.8	Oil Quenched from 1232 <sup>o</sup> C, 5 minutes
	65.2	65.2	Oil Quenched from 1177 <sup>o</sup> C, 5 minutes
	65.2	65.2	Oil Quenched from 1204 <sup>o</sup> C, 5 minutes
Modulus of Elasticity	207 GPa	30000 ksi	
Machinability	45 - 50 %	45 - 50 %	1% Carbon Steel

Thermal Properties	Metric	English	Comments
CTE, linear	11.4 $\mu\text{m/m-}^{\circ}\text{C}$	6.33 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 21.0 - 399 $^{\circ}\text{C}$	@Temperature 69.8 - 750 $^{\circ}\text{F}$	
	11.5 $\mu\text{m/m-}^{\circ}\text{C}$	6.39 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 21.0 - 593 $^{\circ}\text{C}$	@Temperature 69.8 - 1100 $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.93 %	0.93 %	
Chromium, Cr	4.2 %	4.2 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	76.52 %	76.52 %	
Molybdenum, Mo	5.0 %	5.0 %	
Silicon, Si	0.30 %	0.30 %	
Tungsten, W	6.25 %	6.25 %	
Vanadium, V	1.9 %	1.9 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	849 Â°C	1560 Â°F	Ac1

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