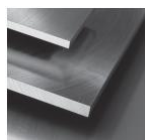


## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM HSS PM 30
Description	PMHS6-5-3-8
AISI/SAE	PM 30
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.eu/alternatives/PM30">www.steel-guide.eu/alternatives/PM30</a>

## Specifications



€co-Präz<sup>®</sup> [€co]  
L: 300 mm

## Chemical composition PM 30 (reference value %)

C	Cr	Mo	V	W	Co
1,3 - 1,3	4,2 - 4,2	5,0 - 5,0	3,1 - 3,1	6,4 - 6,4	8,5 - 8,5

## Physical properties

Hardness (delivery condition)	max. 300 HB, annealed			
Tensile strength R <sub>m</sub> (as received condition)	approx. 995 N/mm <sup>2</sup>			
Working hardness	max. 66 HRC			
Thermal expansion coefficient 10 <sup>-6</sup> m/(m • K)	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	10,9	11,1	11,4	11,5
Thermal conductivity W/(m • K)	20°C	350°C	700°C	
	24,4	28,0	27,4	

## Technical properties

Powder metallurgical manufactured high performance high-speed steel for cold work tools and cutting tools. It convinces with its high wear resistance, good toughness and best cutting edge retention. The addition of cobalt with approx. 8,5% has a positive effect on the high temperature strength or rather the red hardness, tempering resistance and modulus of elasticity.

## Applications

Machining tools, milling cutters, thread cutting tools for materials that are difficult to machine, fine-blanking tools, drills, broaches, cold forming tools, blanking tools, deep drawing tools, die set.

## Heat treatment

	Temperature	Cooling	Hardness
Soft annealing	870 - 900°C	Furnace	max. 300 HB
Stress relief annealing	Temperature	Cooling	
	600 - 650°C	Furnace	
Hardening	Temperature	Quenching in	
	1100 - 1190°C	Air, oil, compressed gas (N <sub>2</sub> ), basin (500 - 550°C)	

### ABRAMS PREMIUM STEEL

is a registered trademark of  
Abrams Engineering Services GmbH & Co. KG  
Hannoversche Str. 38 · 49084 Osnabrueck / Germany  
Managing Director: Dipl.-Wi.-Ing. Dr. Juergen Abrams

Amtsgericht Osnabrueck / Germany, HRA 6865  
VAT-No.: DE 221940667  
General Partner: Abrams Engineering Verwaltungs GmbH  
Amtsgericht Osnabrueck / Germany, HRB 20019

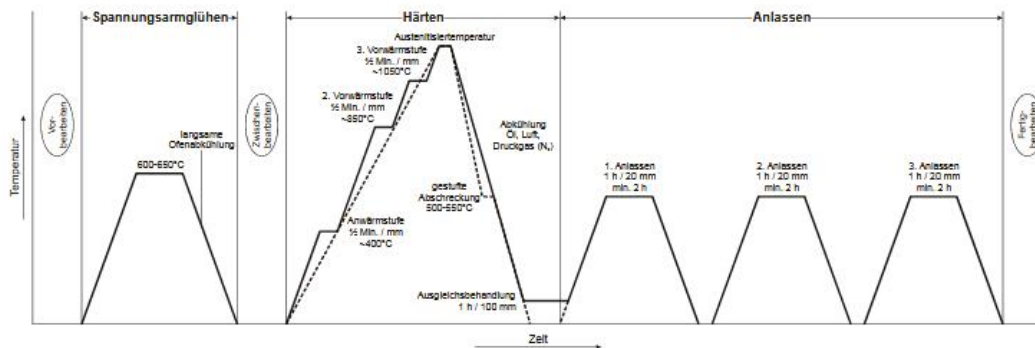
T: +49 (0) 5 41/3 57 39-0  
F: +49 (0) 5 41/3 57 39-39

[sales@premium-steel.eu](mailto:sales@premium-steel.eu)  
[www.premium-steel.eu](http://www.premium-steel.eu)  
[www.shop.premium-steel.eu](http://www.shop.premium-steel.eu)  
[www.steel-guide.eu](http://www.steel-guide.eu)

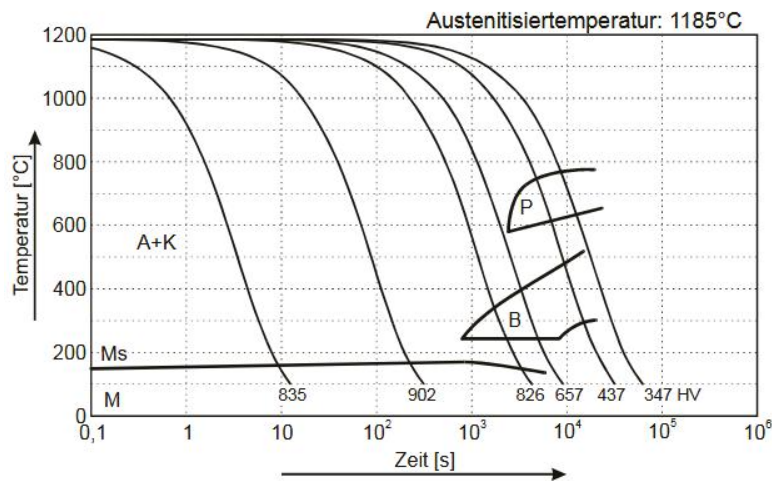
[www.premium-steel.eu/news](http://www.premium-steel.eu/news)



## Heat treatment scheme



## Continuous TZU-diagram



## Tempering / Austenitizing Temperature

Anlasstemperatur	Austenitisiertemperatur			
	1100°C	1130°C	1160°C	1190°C
500°C	65,5 HRc	66,0 HRc	67,0 HRc	67,0 HRc
520°C	65,5 HRc	66,5 HRc	67,0 HRc	68,0 HRc
540°C	65,0 HRc	66,0 HRc	67,0 HRc	67,5 HRc
560°C	63,5 HRc	64,5 HRc	65,0 HRc	66,0 HRc
580°C	62,0 HRc	63,0 HRc	64,0 HRc	64,5 HRc
600°C	60,0 HRc	61,0 HRc	61,5 HRc	62,5 HRc

