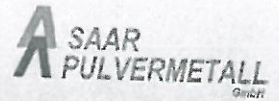


高耐磨性螺杆元件

**SARAMET 10** (SAM 10)



粉末合金成分 [wt. %] Alloy composition [wt. %]

C	Cr	V	Mo	Si	Mn	Ni	W	Co	Fe
2,45	5,3	9,8	1,3	0,9	0,5	/	/	/	Balance

SARAMET10 特性 Material properties

粉末合金材料具有极高的性能是由于析出碳化物的粒度极细且分布均匀。

Powder metallurgical high-performance steel with homogeneously distributed and fine-grained precipitated carbides. The outstanding properties are the extremely high wear resistance and the still high toughness for demanding transforming- and wear applications.

其突出特点为，在高磨损和高扭矩的要求下，材料仍表现出极高的耐磨性与韧性。



HIP-microstructure SARAMET 10 Magnification: 1000x

应用领域 Applications

轧辊，切削工具，螺杆与螺纹元件，冷挤出工具  
Rolls, cutting- and transforming tools, screws and screw components, cold extrusion tools.

SARAMET10 特征参数 Characteristic features of the material

热膨胀系数 Thermal expansion coefficient

20-100 °C	20-200 °C	20-300 °C	20-400 °C	20-500 °C
$10,5 \cdot 10^{-6} / K$	$10,9 \cdot 10^{-6} / K$	$11,3 \cdot 10^{-6} / K$	$11,5 \cdot 10^{-6} / K$	$11,7 \cdot 10^{-6} / K$

抗压强度 Compressive strength

淬火温度 At quenching temperature	回火温度 At tempering temperature	硬度 Hardness	屈服极限 Upsetting limit 0,2%	抗压强度 Compressive strength
1080 °C	500 °C	62,6 HRC	2675 MPa	4154 MPa

热传导率 Heat conductivity

At room temperature: 13  $\frac{W}{m \cdot K}$

弹性模量 Elastic modulus

At room temperature: 213 GPa

理论密度 Theoretical density

7,40 g/cm<sup>3</sup>

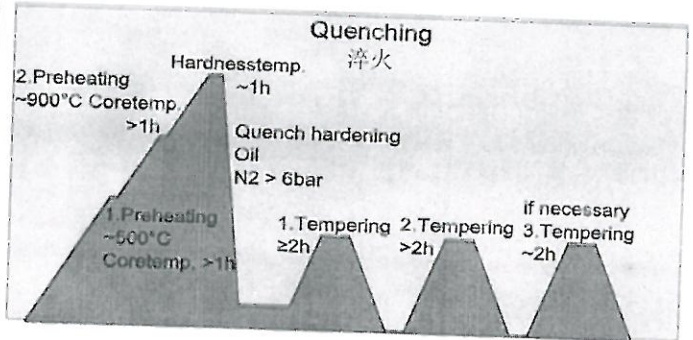
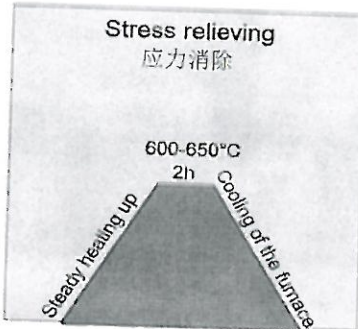
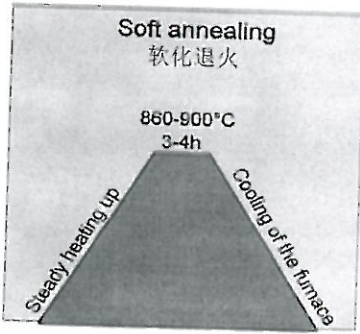
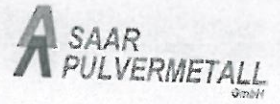
The values indicated in this data sheet are only material descriptive and not guaranteed values.

Contact:

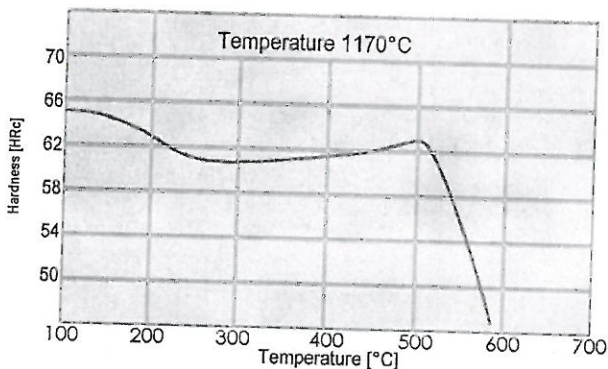
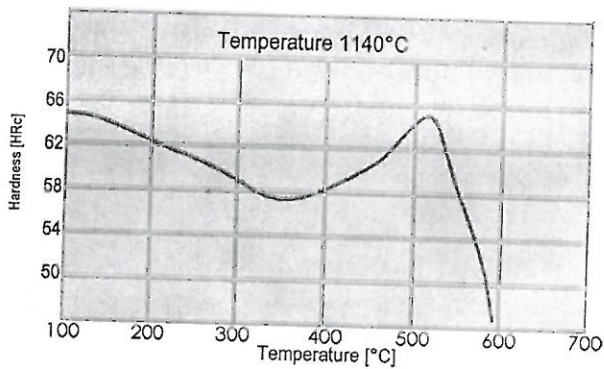
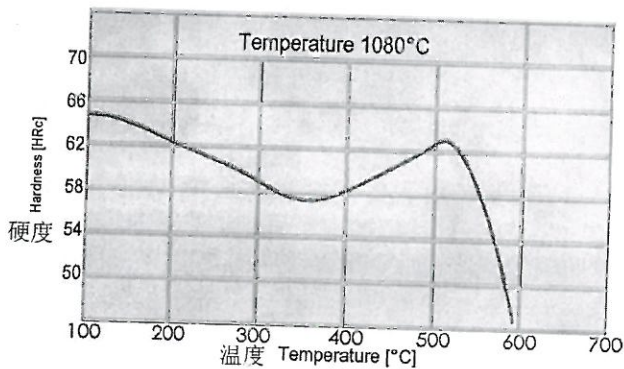
Saar-Pulvermetall GmbH Werner-von-Siemens-Str. 23 D-66793 Saarwellingen Tel.: (0 68 38) 9816-0 Fax: (0 68 38) 9816-11 info@saar-pulvermetall.de



# SARAMET 10



## 热处理 Heat treatment



软化退火 Soft annealing	温度 Temperature	保温时间 Holding time	冷却 Cooling
	860-900°C	3-4h	Furnace
应力消除 Stress relieving	Temperature	Holding time	Cooling
	600-650°C	≥ 2h	Furnace
淬火 Quenching	Temperature	Cooling	Tempering
	1050-1170°C	Oil/Gas (>4bar)	470-570°C

Standard values to set the target hardness [HRc]			
预加热温度 Preheating temperatures:	470°C-500°C and 850°C-880°C		
回火温度 Tempering 2x bzw. 3x 2h	淬火温度 Quenching temperature 1080 °C	淬火温度 Quenching temperature 1140 °C	淬火温度 Quenching temperature 1170 °C
470 °C	60	62	64
490 °C	62	64	65
510 °C	63	65	65
530 °C	61	63	64
550 °C	57	60	61
570 °C	51	57	58

The values indicated in this data sheet are only material descriptive and not guaranteed values.

### Contact:

Saar-Pulvermetall GmbH Werner-von-Siemens-Str. 23 D-66793 Saarwellingen Tel.: (0 68 38) 9816-0 Fax: (0 68 38) 9816-11 info@saar-pulvermetall.de