



Steel Grade: ASTM H19   UNS T20819									
CHEMICAL COMPOSITION									
C(%)	Si(%)	Mn(%)	P(%) ≤	S(%) ②	Cr(%)	Mo(%)	V(%)	W(%)	Other ①
0.32~0.45	0.20~0.50	0.20~0.50	0.03	0.03	4.00~4.75	0.30~0.55	1.75~2.20	3.75~4.50	Co4.00~4.50
HARDNESS AND HEAT TREATMENT									
Hardness HBS   After Annealing	Hardness HBS   After Cold Drawing	Preheating Temperature /°C	Quenching/°C   Salt-bath Furnace	Quenching/°C   Atmosphere Furnace	Holding Time/min	Quenching Medium	Tempering/°C	Hardness ≥ HRC   After Tempering	
241	262	788	1177	1191	5~15	Air Cooling	552	55	

Remark:

- ①, Residual elements content: Ni + Cu ≤ 0.75%.
- ②, A,D,H series to improve machinability, sulfur content can be increased to ω(S)0.06%~0.15%.
- ③, Increase the H13 sulfur, the upper limit of manganese content can reach ω(Mn)1.00%.
- ④, It also have Al which is ω(Al)1.05%~1.25%.
- ⑤, P20 and P21 usually to pre hardened state supplies.
- ⑥, After tempering hardness L2 refers to the hardness of ω(C)0.45%~0.55%.
- ⑦, It standard is ASTM A681-1999.

From: Jiangyou Hacer Technology Co., Limited  
 Factory Add: Jiangzhang Road, Jiangyou City, SC, China  
 Website: <https://www.jhacer.com/>  
 Email: [sales@jhacer.com](mailto:sales@jhacer.com)  
 Phone: +86-(0)816-3260757  
 Call: +86-13658128897(WhatsApp)