

SUPREME STEEL INDUSTRIES



Bohler-Uddeholm UDDEHOLM ALVAR 14 Hot Work Tool Steel

Categories: [Metal](#); [Ferrous Metal](#); [Alloy Steel](#); [Chrome-moly Steel](#); [Tool Steel](#); [Hot Work Steel](#)

Material Notes: Alvar 14 is a chromium-nickel-molybdenumvanadium alloyed steel

ALVAR 14 is characterized by:

- Good toughness
- Good resistance to high thermal stresses
- Good stability in hardening
- Good through-hardening properties

Applications:

- Alvar 14 is ideally suited for hot working tools such as:
- Support parts for extrusion tooling, e.g. backers, bolsters
 - Hot forging tools
 - Die for tin, lead and zinc alloys
 - Tools for hot shearing

Key Words: W.Nr. 1.2714; NiCrMoV7

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

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Physical Properties	Metric	English	Comments
Density	7.78 g/cc	0.281 lb/in ³	hardness of 40 HRC
	7.67 g/cc	0.277 lb/in ³	hardness of 40 HRC
	①Temperature 399 °C	①Temperature 750 °F	
	7.72 g/cc	0.278 lb/in ³	hardness of 40 HRC
	①Temperature 199 °C	①Temperature 390 °F	
Mechanical Properties	Metric	English	Comments
Hardness, Brinell	<= 260	<= 260	Soft annealed
	330 - 400	330 - 400	Hardened and tempered (38-43 HRC, 1100-1350 Nmm)
Modulus of Elasticity	215 GPa	31200 ksi	(hardness of 40 HRC)
	185 GPa	26800 ksi	hardness of 40 HRC
	①Temperature 399 °C	①Temperature 750 °F	
	202 GPa	29300 ksi	hardness of 40 HRC
	①Temperature 199 °C	①Temperature 390 °F	
Thermal Properties	Metric	English	Comments
CTE, linear	13.1 µm/m-°C	7.30 µm/in-°F	hardness of 40 HRC
	①Temperature 20.0 - 199 °C	①Temperature 68.0 - 390 °F	
	13.9 µm/m-°C	7.70 µm/in-°F	hardness of 40 HRC
	①Temperature 3.33 - 399 °C	①Temperature 38.0 - 750 °F	
Thermal Conductivity	38.0 W/m-K	250 BTU-in/hr-°F	hardness of 40 HRC
	①Temperature 20.0 °C	①Temperature 68.0 °F	
	38.5 W/m-K	253 BTU-in/hr-°F	hardness of 40 HRC
	①Temperature 199 °C	①Temperature 390 °F	
	38.8 W/m-K	256 BTU-in/hr-°F	hardness of 40 HRC
	①Temperature 399 °C	①Temperature 750 °F	
Component Elements Properties	Metric	English	Comments
Carbon, C	0.66 %	0.66 %	
Chromium, Cr	1.1 %	1.1 %	
Manganese, Mn	0.70 %	0.70 %	
Molybdenum, Mo	0.50 %	0.50 %	
Nickel, Ni	1.7 %	1.7 %	
Silicon, Si	0.30 %	0.30 %	
Vanadium, V	0.10 %	0.10 %	

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