



Astralloy-V[®]

Round Bars

Chemical Composition* – % Weight

C	Mn	P	S	Si	Ni	Cr	Mo
.29	1.05	.015	.010	.35	3.90	1.75	.45

Physical Properties – Typical Values at 68°F

BHN Hardness	Tensile Strength	Yield Strength	Elongation in 2"	Charpy Test Toughness Index
320 – 388	175 ksi	153 ksi	15%	27 ft. lbs. Longitudinal @ RT

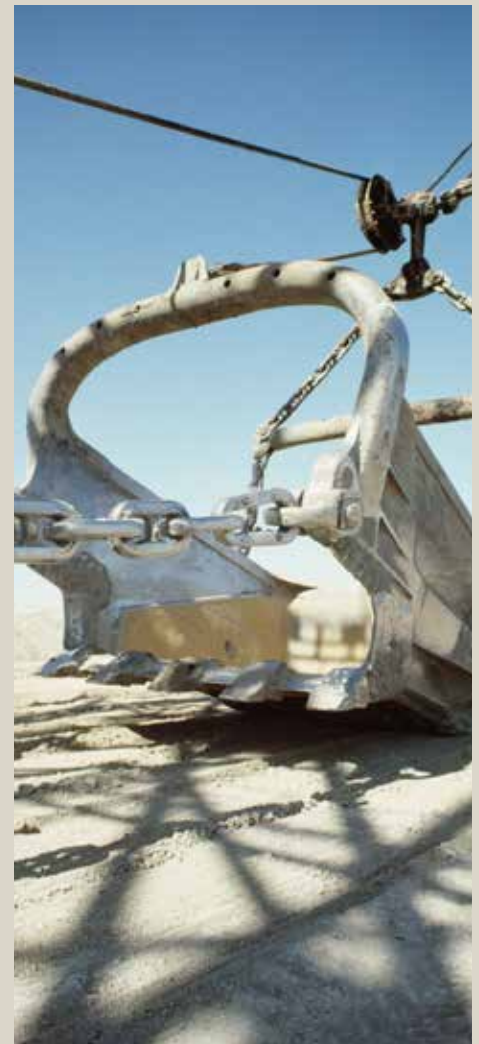
Astralloy-V round bars have the same chemistry, uniform toughness and hardness as plate, from surface to core.

Astralloy-V's ultra-fine grain structure, free of massive carbide particles due to its lower carbon content, provides better machinability at its higher strength/hardness level than quenched and tempered alloys.

ADVANTAGES

- * Uniform hardness throughout the mass (340 BHN) to resist abrasion and promote slidability, and toughness to absorb impact without cracking.
- * Maintains its toughness and hardness without brittleness at temperatures of up to -75°F (-60°C).
- * Hardenability in the range of 550 BHN by impact or sliding action, without deformation or brittleness.
- * Astralloy-V's small oxide surface quickly disappears, exposing a slick, durable surface.
- * Can be hot worked and allowed to air cool without loss of hardness or toughness and without warpage problems.

Note: The data contained in this document is accurate at time of printing, and intended for use as a general guide.
*Typical maximum values. Mill certifications are available upon request.





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MACHINING

For the best continuous machining, we recommend using disposable negative rake, mechanically clamped tungsten carbide inserts and contoured grinders.

For an excellent finish, speeds should be 180 to 270 SFM. A generous and continuous lubricant/coolant bath will prolong tool life.

For better metal removal, the cutting depth should exceed the feed rate by a factor of 10.

MILLING

For optimum metal removal in interrupted machining, use negative rake, mechanically clamped tungsten carbide inserts. The generally recommended feed rate is 0.003" per tooth. The total cutting rate is equal to 0.003" times the number of inserts in the cutter x rpm. Uniform feed distribution requires the use of precision inserts.

At a hardness of 350 BHN, 150 surface feet per minute is reasonable. Slower rates for greater hardness and higher rates for lesser hardness.

SIZE[†]

1" – 10"	Hot Rolled Rounds
10 ¼" – 20 ¼"	Astralloy-V [®] RTF

[†] Larger diameters are available upon request. Please call for details.



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