

Ameralloy[®] HIGH SPEED-2

HIGH CARBON STEEL
AISI M-2



Color code:
ORANGE WITH
BLACK STRIPE



Ameralloy High Speed-2 is the most widely used type of high-speed steel. It is generally used for the same applications as T-1 high speed. Ameralloy High Speed-2 has higher carbon content and balanced analysis producing properties applicable to all general-purpose high speed uses.

Typical Analysis

- Carbon .86
- Chromium 4.15
- Tungsten 6.35
- Molybdenum 5.00
- Vanadium 1.90

Applications

- Lathe tools
- Planer tools
- Drills
- Taps
- Reamers
- Broachers
- Milling cutters
- Form cutters
- Wood knives
- Gear cutters
- End mills

Features And Advantages

- Balanced abrasion and shock resistance
- Good red-hardness
- Weighs 6% less than T-1 high speed
- Can be hardened at 100° below T-1 high speed

Characteristics

- **Machinability** Like all highly alloyed steels, High Speed-2 machines with somewhat more difficulty than the lower alloyed steels. It is rated at 65 as compared to a 1% carbon tool steel, which is rated at 100.
- **Critical points** Critical points obtained by dilatometer tests when heating at a rate of 400° per hour and cooling at 30° per hour are as follows:

Heating – Ac range 1530° to 1610°F

Cooling – Ar range 1430° to 1380°F

Heat Treatment

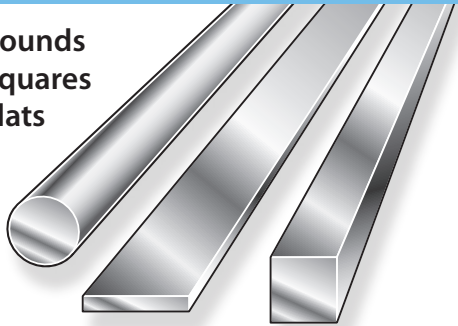
- **Forging** 2050°–2100°F, stop at 1800°F and cool slowly
- **Annealing** 1600°F, cool slowly. Brinell 241 max.
- **Preheating** 1550°F, soak before hardening
- **Hardening** 2250° to 2275°F, oil-quench
- **Tempering** 1000°–1050°F, Rockwell C 65-66

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Available Shapes And Sizes

Rounds
Squares
Flats



Standard lengths 10'–12' or cut to specified length.
Modified and special sizes available upon request.
Prompt forging service available.

Rounds Decarb Free

1/16	5/8	1.515	2-17/64	3-11/16
5/64	21/32	1-9/16	2-5/16	3-3/4
3/32	11/16	1-19/32	2-3/8	3-13/16
7/64	3/4	1.610	2-7/16	3-7/8
1/8	5/32	1-5/8	2-1/2	3-15/16
9/64	13/16	1.650	2-17/32	4
5/32	7/8	1-11/16	2.515	4-1/32
11/64	15/16	1.700	2-9/16	4-1/16
3/16	31/32	1-3/4	2.610	4-1/8
13/64	1	1.765	2-5/8	4-1/4
7/32	1.015	1-49/64	2-11/16	4-3/8
15/64	1.055	1-25/32	2-3/4	4-1/2
1/4	1-1/16	1-13/16	2-13/16	4-5/8
17/64	1-1/8	1.860	2-7/8	4-3/4
9/32	1.160	1-7/8	2-15/16	4-25/32
5/16	1-3/16	1.890	3	4-7/8
21/64	1.192	1-15/16	3.015	5
11/32	1-7/32	1-31/32	3-1/16	5-1/4
3/8	1-1/4	2	3-1/8	5-1/2
25/64	1.275	2.015	3-1/4	5-3/4
13/32	1-5/16	2-1/64	3-5/16	6
7/16	1.360	2-1/32	3-3/8	6-1/4
15/32	1-3/8	2-1/16	3-7/16	6-1/2
1/2	1-7/16	2-1/8	3-1/2	7
17/32	1.450	2-3/16	3-9/16	7-1/2
9/16	1-1/2	2-1/4	3-5/8	8

Flats & Squares Decarb-Free Plus .015/.030

1/4	1/2	5/8	3/4	7/8
x 1/4	x 1/2	x 5/8	x 3/4	x 1-1/2
x 1	x 3/4	x 1-1/4	x 1	x 1-3/4
x 1-1/2	x 1	x 1-1/2	x 1-1/2	x 2
3/8	x 1-1/2	x 2	x 2	x 3
x 2	x 2-1/4	x 2-1/2	x 2-1/2	x 4
x 3/8	x 2-1/2		x 3	x 5
x 1	x 3		x 4	x 6
x 1-1/4	x 4		x 5	x 8
x 1-1/2	x 6		x 6	x 10
x 2	x 8		x 8	x 12
x 3	x 10		x 10	
	x 12		x 12	
1	1-1/4	1-1/2	1-3/4	2
x 1	x 1-1/4	x 1-1/2	x 1-3/4	x 2
x 1-1/4	x 1-1/2	x 2	x 2	x 2-1/2
x 1-1/2	x 2	x 2-1/2	x 2-1/2	x 3
x 2	x 2-1/2	x 3	x 3	x 3-1/2
x 2-1/2	x 3	x 4	x 4	x 4
x 3	x 4	x 6	x 5	x 5
x 4	x 5	x 8	x 6	x 6
x 5	x 6	x 10	x 8	x 8
x 6	x 8	x 12	x 10	x 10
x 8	x 10		x 12	x 12
x 10	x 12			
x 12				
2-1/2	3			
x 2-12	x 3			
x 3	x 4			
x 4	x 6			
x 6	x 8			
x 8	x 10			
x 10	x 12			
x 12				