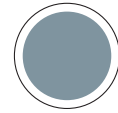


# Ameralloy<sup>®</sup>-FH

## FLAME HARDENING DIE STEELS



Color code:  
GRAY

Ameralloy-FH was specially developed to withstand severe wear and resist galling. The application of Ameralloy-FH will result in a more uniform section after hardening, without shrinking. Ameralloy-FH can be hardened by quenching and tempering, flame hardening, or carburizing.

Ameralloy-FH was engineered to produce a perfect hand tool with inexperienced help, or where there is a lack of adequate heat-treating facilities. Ameralloy-FH can be reworked at the forge without cracking or changing physical properties.

### Typical Analysis

- Carbon .30
- Manganese .75
- Chromium 1.10
- Silicon .45
- Molybdenum .35
- Copper .50

### Features And Advantages

- Minimum decarburization
- Safe—will not mushroom or chip
- Wider range of hardness
- Shock resistant
- Extremely tough
- No tempering required

### Heat Treatment

- **Forging** 1900°–2150°F, stop at 1700°F
- **Annealing** 1400°F, slow furnace cool, Brinell 197
- **Hardening** 1500°–1850°F, water or oil-quench
- **Tempering** 300°–1300°F, Brinell 534–241

### General Instructions

- **Annealing** If machining is to follow forging, anneal by heating to 1400°F (cherry-red), cool to 900°F, then air cool.
- **Hardening** Allow tool to cool after forging. Reheat to 1550°–1850°F (salmon-to-orange range) and quench in water.
- **Toughen striking end** In the as-forged condition, the striking end should be tapered and heated to 1325°F (cherry-red), and quenched in water. This insures elimination of mushrooming.
- **Forging** Forge at 1800°–2000°F. Discontinue operation when temperature falls below 1800°F and reheat again. After forging, the piece should be air cooled. Ameralloy-FH will have the following physical properties:
  - Yield point: 96,000 lbs. psi
  - Tensile strength: 152,000 lbs. psi
  - Elongation in 2": 18%
  - Reduction of area: 46%
  - Brinell hardness: 320

Rounds			Squares		Hexagons		Flats				
1/2	2	4-1/4	1/2	2-1/4	3/8	1-3/4	<b>3/4</b>	x 2	x 6	x 7	x 7
5/8	2-1/8	4-1/2	5/8	2-1/2	1/2	1-7/8	x 1	x 3	x 7	x 8	x 8
3/4	2-1/4	4-3/4	3/4	2-3/4	5/8	2	x 1-1/2	x 4	x 8	x 10	x 10
7/8	2-3/8	5	7/8	3	3/4	2-1/8	x 2	x 5	x 10	x 12	x 12
1	2-1/2	5-1/2	1	3-1/2	7/8	2-1/4	x 3	x 6	<b>1-1/2</b>	<b>1-3/4</b>	x 14
1-1/8	2-3/4	6	1-1/8	4	1	2-3/8	x 4	x 8	x 2	x 6	x 16
1-1/4	3	6-1/2	1-1/4		1-1/8	2-1/2	x 5	x 10	x 3	<b>2</b>	x 18
1-3/8	3-1/4	7	1-3/8		1-1/4	2-3/4	x 6	x 12	x 3-1/2	x 3	<b>2-1/2</b>
1-1/2	3-1/2	7-1/2	1-1/2		1-3/8	3	x 8	<b>1-1/4</b>	x 4	x 4	x 3
1-5/8	3-3/4	8	1-3/4		1-1/2		<b>1</b>	x 4	x 5	x 5	x 4
1-3/4	4		2		1-5/8		x 1-1/2	x 5	x 6	x 6	x 5

Ameralloy-FH sizes for immediate shipment. Lengths: 18-20'. Custom sizes by request.