

# Starrett®

## Ground Flat Stock & Drill Rod

*High-quality, precision ground steel  
minimizes time-consuming initial grinding  
to size in precision machining projects.*



[www.starrett.com](http://www.starrett.com)

# Cut Cost and Save Time with Starrett Ground Flat Stock & Drill Rod

## Make Parts Fast – When You Need Them

Starrett Precision Ground Flat Stock and Drill Rod can save time in your shop ... no more time hunting lost stock ... no more slow, costly grinding to size. Just lay it out and saw it out and save valuable machinery, downtime and man hours.

Starrett does most of the precision sizing for you and all flat stock surfaces are parallel, with surface finishes down to 35 microinch. The

metallurgy is also precise, as are the instructions for hardening, tempering and annealing.

You can rely on the quality – in fact, Starrett uses this same selection of stock for many of its own precision tools.

A full range of sizes are in stock, ready for fast shipping from one of six North American locations.



Starrett Flat Stock is packaged in industry standard brown paper wrap.

**01 Oil Hardening** AISI/SAE 01 is a general-purpose tool steel with good wear resistance, toughness and machinability. 01 has deep hardening characteristics and fine grain structure. It is ideal for intricate work and thin sections, due to its minimal danger of cracking.

**Standard 01 Flat Stock: Cat. No. 496. Oversize 01 Flat Stock: Cat. No. 495, 01 Drill Rod: Cat. No 480**

**A2 Air Hardening** AISI/SAE A2 is a more highly alloyed tool steel that provides excellent wear resistance and toughness, plus good machinability. A2 produces up to 50% more pieces per sharpening than oil hardening steel. A2 is ideal for punches and dies.

**Standard A2 Flat Stock: Cat. No. 497. Oversize A2 Flat Stock: Cat. No. 499, A2 Drill Rod: Cat. No 482**

**A6 Air Hardening** AISI A6 is a medium alloyed air hardening tool steel that provides an excellent balance of machinability, toughness and wear resistance. Its heat treating temperature is low – similar to that of oil hardening steel, resulting in deep hardness and minimum distortion.

**A6 Flat Stock: Cat No. 344. (A6 Drill Rod not available).**

**D2 High Carbon Chromium** AISI D2 is a high carbon, high chromium steel used for tooling that requires high wear resistance and moderate toughness.

**Standard D2 Flat Stock: Cat. No. 401. Oversize D2 Flat Stock: Cat. No. 402. (D2 Drill Rod not available).**

**LC Free Machining** With its high sulfur content, Starrett LC is unique in the ground flat stock industry, The result is exceptional machinability. Low Carbon is a .20 carbon fine-grained, killed steel that can be carburized or case-hardened. It provides longer cutting tool life with lower machining costs, better finish and faster production.

**LC Flat Stock: Cat No. 498. (LC Drill Rod not available).**

**W1 Carbon** AISI/SAE W1 is a versatile and less expensive carbon steel with excellent machinability, good wear resistance and toughness.

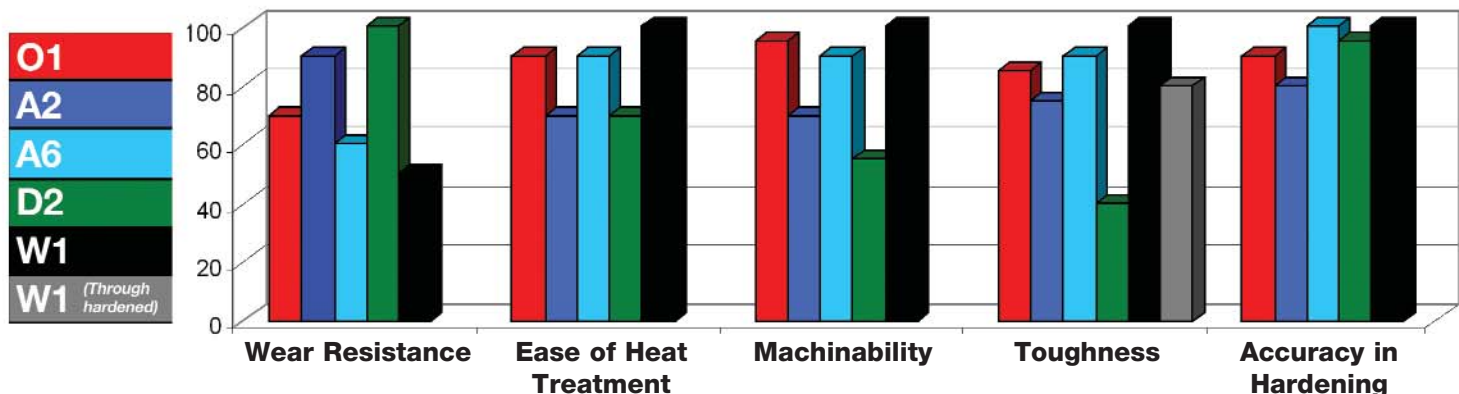
**W1 Drill Rod: Cat No. 481. (W1 Flat Stock not available).**

### Special Requirements

*In addition to the products described here, Starrett also offers non-standard Ground Flat Stock typically available within 5-7 working days. Specials can be produced in powder metal, cold work, hot work, high speed, carbon steel, 400 Series Stainless and other alloy steels.*

*Please contact Starrett for a special order quotation on your non-standard flat stock requirements.*

## Comparative Material Properties



# Technical Specifications

## Nominal Chemical Analysis

	01	A2	A6	D2	LC	W1
Carbon	.90	1.00	.70	1.55	.20	.97
Chromium	.50	5.25	1.00	11.80		
Manganese	1.20	.60	2.00	.40	1.00	.40
Vanadium	.20	.25		.80		
Molybdenum		1.00	1.25			
Tungsten	.50					
Silicon	.20*	.40		.30	.25	.17
Sulfur					.05 (max.)	

\* Drill rod only

## Dimensional Tolerances

### Ground Flat Stock

Regular:	Thickness $\pm .001''$ Width up through 8", $+.000/.005''$ 9" width and over, $+.000/.015''$ Squares, $\pm .001''$
Oversize:	Thickness, width, squares; $+.010/.015''$
Length:	Saw cut oversize allowing finish cutting 18", $+1/4''$ 24", $+1/2''$ 36", $+5/8''$

Squareness (all edges): .003 Per inch

Finish: 35 Microinch or finer

Material:	Size	Range
01 (495, 496)	Thickness: 1/64" to 2" Widths: 1/8" to 12"	18" & 36"
A2 (497, 499)	Thickness: 1/64" to 3" Widths: 3/16" to 12"	18" & 36"
A6 (344)	Thickness: 1/16" to 1" Widths: 3/16" to 12"	36"
D2 (401, 402)	Thickness: 1/16" to 1" Widths: 1/2" to 6"	18" & 36"
LC (498)	Thickness: 1/16" to 2-1/2" Widths: 3/16" to 12"	24"

Special sizes and lengths available.

### Drill Rod

Size Range	Diameter Tolerance	Length Tolerance
.124" round and less	$\pm .0003''$	+ 1/8" - 0
.125" to .499"	$\pm .0005''$	
.500" to 2"	$\pm .0010''$	

Heat Treatment & Tempering Data for Ground Flat Stock and Drill Rod is available upon request and also online at [www.starrett.com](http://www.starrett.com)

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Flat Stock is identified by grade over its entire length to be easily identified even after it is cut off.

Starrett offers a full selection of drill rod in stock.



# Order fulfillment from six locations

- *Quality, precision ground steel*
- *Convenient & cost-effective*
- *Fast order fulfillment*

1. Athol, Massachusetts
2. Bensenville, Illinois (Chicago)
3. Denver, Colorado
4. Mississauga, Ontario
5. Mount Airy, North Carolina
6. Saltillo, Mexico (Monterrey)

*With Starrett stocking distributor inventories and company stock strategically located around North America, your Starrett Ground Flat Stock and Drill Rod order will get to you fast.*

Call for Information & Sales at:

U.S.A.: 800-784-2887 • Canada: 905-624-2750 • Mexico: 844-432-46-60

Bulletin No. 1119 Printed in USA 5M 05/08 x

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