

**OIL HARDENING PRECISION
GROUND FLAT STOCK**
(REGULAR SIZE AND OVERSIZED)



STARRETT SERIES 783: 18" Lengths
STARRETT SERIES 784: 36" Lengths



For Tolerances see page 625.

- Stock is dimensionally stable - use it for the most intricate work
- Deep hardening characteristics and fine grain structure
- Machines freely - fully spheroidized, annealed
- Full length identification - eliminates confusion with other steels

Specifications

Furnished in 18" and 36" lengths, ground straight and parallel

Nominal Analysis (AISI 01)

Carbon-.90 Tungsten -.50
Chromium-.50 Vanadium-.20
Manganese-1.20

Hardening

It is recommended that stock be heated uniformly to 1450°-1500° F and quenched in oil. Temperature of the quenching oil should be 120°-140°F for best results. Do not quench in water because this is an oil hardening steel.

Size	Temp	Quench	Rockwell C
All Sizes	1450° 1500°	Oil	63-65

Tempering

For maximum toughness, a tempering time of one hour at temperature is recommended. Use chart for selecting desired Rockwell C hardness and corresponding tempering temperature. The following table may also be used as a guide depending on type of work.

Cutting Tools - 300°-350°F (Light Straw)
Solid Punches and Dies - 400°-450°F (Straw)
Spring Temper - 750°-800°F (Blue)

STOCK MATERIALS

Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
1/64"	1/2"	53924	-	-	-
	3/4"	53925	-	-	-
	1"	53926	-	-	-
	1-1/4"	53927	-	-	-
	1-1/2"	53928	-	-	-
	2"	53929	-	-	-
	2-1/2"	53930	-	-	-
	4"	53932	-	-	-
1/32"	1/2"	53933	-	-	-
	3/4"	53934	-	-	-
	1"	53935	-	-	-
	1-1/4"	53936	-	-	-
	1-1/2"	53937	-	-	-
	2"	53938	-	-	-
	2-1/2"	53939	-	-	-
	6"	53942	-	-	-
3/64"	1/2"	53943	-	-	-
	3/4"	53944	-	-	-
	1"	53945	-	-	-
	1-1/4"	53946	-	-	-
	1-1/2"	53947	-	-	-
	2"	53948	-	-	-
	2-1/2"	53949	-	-	-
	6"	53953	-	-	-
1/16"	1/4"	57226	-	-	-
	3/8"	57227	-	-	-
	1/2"	53954	-	54257	-
	5/8"	610406	-	-	-
	3/4"	53955	-	54258	-
	1"	53956	-	54259	-
	1-1/4"	53957	-	54260	-
	1-1/2"	53958	-	54261	-
	1-3/4"	53959	-	54262	-
	2"	53960	-	54263	-
	2-1/2"	53961	-	54264	-
	3"	53962	-	54265	-
	3-1/2"	53963	-	54266	-
	4"	53964	-	54267	-
5"	53965	-	54268	-	
5/64"	1/2"	53969	-	-	-
	3/4"	53970	-	-	-
	1"	53971	-	-	-
	1-1/2"	53972	-	-	-
	2"	53973	-	-	-
	2-1/2"	53974	-	-	-
	3"	53975	-	-	-
	6"	53977	-	-	-

Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
3/32"	1/2"	53978	-	54279	-
	3/4"	53979	-	54280	-
	1"	53980	-	54281	-
	1-1/4"	53981	-	54282	-
	1-1/2"	53982	-	54283	-
	1-3/4"	610617	-	-	-
	2"	53983	-	54284	-
	8"	53989	-	-	-
7/64"	1/2"	53990	-	-	-
	3/4"	53991	-	-	-
	1"	53992	-	-	-
	1-1/4"	53993	-	-	-
	4"	53997	-	-	-
1/8"	1/8"	53998	-	-	-
	1/4"	57228	-	-	-
	3/8"	57229	-	-	-
	1/2"	53999	-	54298	-
	5/8"	54000	-	54299	-
	3/4"	54001	-	54300	-
	1"	54002	-	54301	-
	1-1/4"	54003	-	54302	-
	1-1/2"	54004	-	54303	-
	1-3/4"	54005	-	54304	-
	2"	54006	-	54305	-
	2-1/2"	54007	-	54306	-
	3"	54008	-	54307	-
	3-1/2"	54009	-	54308	-
14"	54018	-	57238	-	
9/64"	9/64"	54019	-	-	-
	1/2"	54020	-	-	-
	3/4"	54021	-	-	-
	1"	54022	-	-	-
	1-1/2"	54023	-	-	-
	2"	54024	-	-	-
	3"	54025	-	-	-
	8"	610950	-	-	-

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**OIL HARDENING PRECISION
GROUND FLAT STOCK (Continued)**
(REGULAR SIZE AND OVERSIZE)



SERIES 783: 18" Lengths
SERIES 784: 36" Lengths

For Tolerances see page 625.



Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
5/32"	5/32"	54027		-	
	1/2"	54028		54324	
	3/4"	54029		54325	
	1"	54030		54326	
	1-1/4"	54031		54327	
	1-1/2"	54032		54328	
	1-3/4"	54033		54329	
	2"	54034		54330	
	2-1/2"	54035		54331	
	3"	54036		54332	
	3-1/2"	54037		54333	
	4"	54038		54334	
	5"	54039		54335	
	6"	54040		54336	
	8"	54041		54337	
	3/16"	3/16"	54042		-
1/4"		57230		-	
3/8"		57231		-	
1/2"		54043		54338	
3/4"		54044		54339	
1"		54045		54340	
1-1/4"		54046		54341	
1-1/2"		54047		54342	
1-3/4"		54048		54343	
2"		54049		54344	
2-1/2"		54050		54345	
3"		54051		54346	
3-1/2"		54052		54347	
4"		54053		54348	
5"		54054		54349	
6"		54055		54350	
8"	54056		54351		
10"	54057		-		
12"	611295		54352		
7/32"	7/32"	54058		-	
	1/2"	54059		54353	
	3/4"	54060		54354	
	1"	54061		54355	
	1-1/4"	54062		54356	
	1-1/2"	54063		54357	
	2"	54064		54358	
	3"	54065		54359	
4"	54066		54360		
6"	54067		-		
1/4"	1/4"	54068		56517	
	3/8"	54069		-	
	1/2"	54070		54362	
	3/4"	54071		54363	
	1"	54072		54364	
	1-1/4"	54073		54365	
	1-1/2"	54074		54366	
	1-3/4"	54075		54367	
	2"	54076		54368	
	2-1/2"	54077		54369	
	3"	54078		54370	
	3-1/2"	54079		54371	
	4"	54080		54372	
	4-1/2"	54081		54373	
	5"	54082		54374	
	5-1/2"	54083		54375	
6"	54084		54376		
7"	54085		54377		
8"	54086		54378		
10"	54087		54379		
12"	54088		54380		
14"	54089		57239		

Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
9/32"	9/32"	54090		-	
	1/2"	54091		-	
	3/4"	54092		-	
	1"	54093		-	
	1-1/4"	54094		-	
	1-1/2"	54095		-	
	2"	54096		-	
	2-1/2"	54097		-	
	3"	54098		-	
	4"	54099		-	
	6"	54100		-	
5/16"	5/16"	54101		54391	
	3/8"	57232		-	
	1/2"	54102		54392	
	3/4"	54103		54393	
	1"	54104		54394	
	1-1/4"	54105		54395	
	1-1/2"	54106		54396	
	1-3/4"	57233		57240	
	2"	54107		54397	
	2-1/2"	54108		54398	
	3"	54109		54399	
	3-1/2"	54110		54400	
	4"	54111		54401	
	4-1/2"	54112		54402	
	5"	54113		54403	
	6"	54114		54404	
8"	54115		54405		
3/8"	3/8"	54116		54406	
	1/2"	54117		54407	
	3/4"	54118		54408	
	1"	54119		54409	
	1-1/4"	54120		54410	
	1-1/2"	54121		54411	
	1-3/4"	54122		54412	
	2"	54123		54413	
	2-1/2"	54124		54414	
	3"	54125		54415	
	3-1/2"	54126		54416	
	4"	54127		54417	
	4-1/2"	54128		54418	
	5"	54129		54419	
	5-1/2"	54130		54420	
	6"	54131		54421	
7"	54132		54422		
8"	54133		54423		
10"	54134		54424		
12"	54135		54425		
7/16"	7/16"	54136		54426	
	1/2"	54137		54427	
	3/4"	54138		54428	
	1"	54139		54429	
	1-1/4"	54140		54430	
	1-1/2"	54141		54431	
	2"	54142		54432	
	2-1/2"	54143		54433	
3"	54144		54434		
4"	54145		54435		
6"	54146		54436		
1/2"	1/2"	54147		54437	
	5/8"	54148		54438	
	3/4"	54149		54439	
	1"	54150		54440	
	1-1/4"	54151		54441	
	1-1/2"	54152		54442	
	1-3/4"	57234		57241	
	2"	54153		54443	
	2-1/2"	54154		54444	
	3"	54155		54445	
	3-1/2"	54156		54446	
	4"	54157		54447	
	4-1/2"	54158		54448	
	5"	54159		54449	
	6"	54160		54450	
	7"	54161		54451	
8"	54162		54452		
10"	54163		54453		
12"	54164		-		
14"	54165		-		

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STOCK MATERIALS

**OIL HARDENING PRECISION
GROUND FLAT STOCK** (Continued)
(REGULAR SIZE AND OVERSIZE)



SERIES 783: 18" Lengths
SERIES 784: 36" Lengths

For Tolerances see page 625.

OIL HARDENING

Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
9/16"	9/16"	54166		54455	
	3/4"	54167		54456	
	1"	54168		54457	
	1-1/4"	54169		54458	
	1-1/2"	54170		54459	
5/8"	2"	54171		54460	
	5/8"	54172		54461	
	3/4"	54173		54462	
	1"	54174		54463	
	1-1/4"	54175		54464	
	1-1/2"	54176		54465	
	1-3/4"	614017			
	2"	54177		54466	
	2-1/2"	54178		54467	
	3"	54179		54468	
	3-1/2"	54180		54469	
	4"	54181		54470	
	5"	54182		54471	
	6"	54183		54472	
	8"	54185		54474	
10"	54186		54475		
12"	57235		57242		
3/4"	3/4"	54187		54476	
	1"	54188		54477	
	1-1/4"	54189		54478	
	1-1/2"	54190		54479	
	2"	54191		54480	
	2-1/2"	54192		54481	
	3"	54193		54482	
	3-1/2"	54194		54483	
	4"	54195		54484	
	4-1/2"	54196		54485	
	5"	54197		54486	
	6"	54198		54487	
	8"	54199		54488	
10"	54200		54489		
12"	54201		54490		
7/8"	7/8"	54202		54491	
	1"	54203		54492	
	1-1/4"	54204		54493	
	1-1/2"	54205		54494	
	1-3/4"	615617			
	2"	54206		54495	
	2-1/2"	54207		54496	
	3"	54208		54497	
	4"	54209		54498	
6"	54210		54499		
1"	1"	54211		54500	
	1-1/4"	54212		54501	
	1-1/2"	54213		54502	
	2"	54214		54503	
	2-1/2"	54215		54504	
	3"	54216		54505	
	3-1/2"	54217		54506	
	4"	54218		54507	
	4-1/2"	54219		54508	
	5"	54220		54509	
	6"	54221		54510	
	8"	54222		54511	
10"	54223		54512		
12"	54224		54513		

Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
1-1/8"	1-1/2"	54225		54514	
	2"	54226		54515	
	3"	54227		54516	
	4"	54228		54517	
	6"	54229		54518	
1-1/4"	1-1/4"	54230		54519	
	1-1/2"	54231		54520	
	2"	54232		54521	
	2-1/2"	54233		54522	
	3"	54234		54523	
	4"	54235		54524	
	4-1/2"	617445		-	
	5"	54236		54525	
	6"	54237		54526	
	8"	54238		54527	
10"	54239		54528		
1-1/2"	1-1/2"	54240		54529	
	1-3/4"	618217		-	
	2"	54241		54530	
	2-1/2"	54242		54531	
	3"	54243		54532	
	3-1/2"	54244		54533	
	4"	54245		54534	
	5"	54246		54535	
	6"	54247		54536	
	8"	54248		54537	
10"	54249		54538		
2"	2"	54250		54539	
	3"	54251		54540	
	4"	54252		54541	
	6"	54253		54542	
	10"	619690		-	
Oversized Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
3/16"	3/16"	56957		-	
	1/2"	56958		56813	
	3/4"	56959		56814	
	1"	56960		56815	
	1-1/4"	56961		56816	
	1-1/2"	56962		56817	
	2"	56963		56818	
	2-1/2"	56964		56819	
	3"	56965		56820	
	4"	56966		56821	
	5"	56967		-	
1/4"	6"	56968		56822	
	8"	56969		-	
	10"	56970		-	
	1/4"	56971		-	
	1/2"	56972		56823	
	3/4"	56973		56824	
	1"	56974		56825	
	1-1/4"	56975		56826	
	1-1/2"	56976		56827	
	1-3/4"	56977		-	
	2"	56978		56828	
5/16"	2-1/2"	56979		56829	
	3"	56980		56830	
	3-1/2"	56981		56831	
	4"	56982		56832	
	4-1/2"	56983		-	
	5"	56984		56833	
	6"	56985		56834	
	8"	56986		-	
	5/16"	56987		-	
	1/2"	56988		56835	
	3/4"	56989		56836	
1"	56990		56837		
1-1/4"	56991		56838		
1-1/2"	56992		56839		
2"	56993		56840		
2-1/2"	56994		56841		
3"	56995		56842		
4"	56996		56843		
5"	56997		56844		
6"	-		56845		

(Continued)

STOCK MATERIALS

**OIL HARDENING PRECISION
GROUND FLAT STOCK**



(Continued)

(REGULAR SIZE AND OVERSIZED)
SERIES 783: 18" Lengths
SERIES 784: 36" Lengths



**AIR-HARDENING PRECISION
GROUND FLAT STOCK**

(REGULAR AND OVERSIZED)
SERIES 684: 18" Lengths
SERIES 686: 36" Lengths

For Tolerances see page 625.



For Tolerances see page 625.



Oversized Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
3/8"	3/8"	56998		-	
	1/2"	56999		56846	
	3/4"	57000		56847	
	1"	57001		56848	
	1-1/4"	57002		56849	
	1-1/2"	57003		56850	
	2"	57004		56851	
	2-1/2"	57005		56852	
	3"	57006		56853	
	3-1/2"	57007		-	
	4"	57008		56854	
	4-1/2"	57009		-	
	5"	57010		56855	
	6"	57011		56856	
8"	57012		56857		
12"	57013		-		
1/2"	1/2"	57014		56858	
	3/4"	57015		56859	
	1"	57016		56860	
	1-1/4"	57017		56861	
	1-1/2"	57018		56862	
	2"	57019		56863	
	2-1/2"	57020		56864	
	3"	57021		56865	
	3-1/2"	57022		-	
	4"	57023		56866	
	4-1/2"	57024		-	
	5"	57025		56867	
	6"	57026		56868	
	8"	57027		56869	
10"	57028		56870		
12"	57029		-		
5/8"	5/8"	57030		56871	
	3/4"	57031		-	
	1"	57032		56872	
	1-1/4"	57033		56873	
	1-1/2"	57034		56874	
	2"	57035		56875	
	2-1/2"	57036		56876	
	3"	57037		56877	
	4"	57039		56878	
	5"	57040		56879	
6"	57041		56880		
3/4"	3/4"	57042		56881	
	1"	57043		56882	
	1-1/4"	57044		-	
	1-1/2"	57045		56883	
	2"	57046		56884	
	2-1/2"	57047		56885	
	3"	57048		56886	
	3-1/2"	57049		-	
	4"	57050		56887	
	5"	57051		-	
6"	57052		56888		
1"	1"	57054		56889	
	1-1/4"	57055		626630	
	1-1/2"	57056		56890	
	2"	57057		56891	
	2-1/2"	57058		56892	
	3"	57059		56893	
	3-1/2"	57060		-	
	4"	57061		56894	
6"	57063		56895		

Dimensionally stable

The 5% chromium content makes this steel especially desirable for punches and dies to be used in long production runs since it gives the tools far longer life. Up to 50% more pieces per sharpening can be produced than with oil hardening steel.

High wear resistance is also ideal for punches and dies to stamp silicon, stainless steels, monel metal and other types of abrasive material.

Maintains close dimensional accuracy throughout the heat treating process. The wide 75° hardening range make this virtually foolproof.

Full-length identification eliminates confusion with other steels.

Specifications

Furnished in 18" and 36" lengths, ground straight and parallel

Nominal Analysis (AISI A2)

- Carbon -1.00 Molybdenum -1.00
- Chromium -5.25 Silicon -.40
- Manganese -.60 Vanadium -.25

Hardening

Air Hardening Precision Ground Flat Stock has a wide hardening range of 1700°F to 1775°F, with 1750°F recommended for most work. For heavier sections use the high side of the range. Heat uniformly throughout but do not soak longer than necessary. Cool in still air. No preheat is required if pack or atmosphere controlled furnace methods are used, but with the open furnace method a preheat of 1450°F is recommended.

Size	Temp	Cool	Rockwell C
All Sizes	1700°F-1775°F	Still Air	63.5-65

Tempering

A Tempering time of two hours at temperature is recommended. Use chart for selecting the desired Rockwell C hardness and corresponding tempering temperature. For maximum toughness, double temper for two hours at each temperature recommended.

- **Light Blanking Punches and Dies** - 400°-425°F
- **Heavy Blanking Punches and Dies** - 700°F
- **Annealing** - 1525°-1575°F Furnace cool at no more than 50° per hour to 800° for maximum softness

Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
1/16"	1/2"	57489		57301	
	3/4"	57490		57302	
	1"	57491		57303	
	1-1/4"	57492		57304	
	1-1/2"	57493		57305	
	2"	57494		57306	
	2-1/2"	57495		57307	
	3"	57496		57308	
3/32"	1/2"	57498		57310	
	3/4"	57499		57311	
	1"	57500		57312	
	1-1/4"	57501		57313	
	1-1/2"	57502		57314	
	2"	57503		57315	
	2-1/2"	57504		57316	
	3"	57505		57317	
4"	57506		57318		

(Continued)

**AIR-HARDENING PRECISION
GROUND FLAT STOCK (Continued)**



(REGULAR AND OVERSIZED)

SERIES 684: 18" Lengths

SERIES 686: 36" Lengths

For Tolerances
see page 625.

AIR HARDENING

STOCK MATERIALS

Regular Size Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
1/8"	1/2"	57243		57245	
	5/8"	57507		57319	
	3/4"	57244		57246	
	1"	54589		54546	
	1-1/4"	54590		54547	
	1-1/2"	54591		54548	
	1-3/4"	57508		57320	
	2"	54592		54549	
	2-1/2"	54593		54550	
	3"	54594		54551	
	3-1/2"	54595		54552	
	4"	54596		54553	
	5"	54598		54555	
6"	54599		54556		
7"	57509		57321		
8"	57510		57322		
10"	57511		57323		
12"	57512		57324		
5/32"	1/2"	57513		57325	
	3/4"	57514		57326	
	1"	54600		54557	
	1-1/4"	54601		54558	
	1-1/2"	54602		54559	
	1-3/4"	57515		57327	
	2"	54603		54560	
	2-1/2"	54604		54561	
	3"	54605		54562	
	3-1/2"	54606		54563	
	4"	54607		54564	
	5"	54608		54565	
	6"	54609		54566	
8"	57516		57328		
3/16"	3/16"	57517		57329	
	1/2"	57518		57330	
	3/4"	57519		57331	
	1"	54610		54567	
	1-1/4"	54611		54568	
	1-1/2"	54612		54569	
	1-3/4"	57520		57332	
	2"	54613		54570	
	2-1/2"	54614		54571	
	3"	54615		54572	
	3-1/2"	54616		54573	
	4"	54617		54574	
	5"	54618		54575	
6"	54619		54576		
7"	57521		57333		
8"	57522		57334		
1/4"	1/4"	57523		57335	
	1/2"	57524		57336	
	3/4"	57525		57337	
	1"	54620		54577	
	1-1/4"	54621		54578	
	1-1/2"	54622		54579	
	1-3/4"	57526		57338	
	2"	54623		54580	
	2-1/2"	54624		54581	
	3"	54625		54582	
	3-1/2"	54626		54583	
	4"	54627		54584	
	5"	54629		54586	
6"	54631		54588		

Regular Size Specifications						
Thickness	Width	18" Length		36" Length		
		EDP No.	Price	EDP No.	Price	
5/16"	5/16"	57527		57339		
	1/2"	57528		57340		
	3/4"	57529		57341		
	1"	54717		54632		
	1-1/4"	54718		54633		
	1-1/2"	54719		54634		
	1-3/4"	57530		57342		
	2"	54720		54635		
	2-1/2"	54721		54636		
	3"	54722		54637		
	3-1/2"	54723		54638		
	4"	54724		54639		
	5"	54726		54641		
6"	54727		54642			
3/8"	3/8"	57531		57343		
	1/2"	57532		57344		
	3/4"	57533		57345		
	1"	54728		54643		
	1-1/4"	54729		54644		
	1-1/2"	54730		54645		
	1-3/4"	57534		57346		
	2"	54731		54646		
	2-1/2"	54732		54647		
	3"	54733		54648		
	3-1/2"	54734		54649		
	4"	54735		54650		
	5"	54737		54652		
6"	54739		54654			
1/2"	1/2"	56495		56505		
	5/8"	57535		57347		
	3/4"	56494		56506		
	1"	56493		56507		
	1-1/4"	57536		57348		
	1-1/2"	57537		57349		
	1-3/4"	57538		57350		
	2"	54748		54663		
	2-1/2"	54749		54664		
	3"	54750		54665		
	3-1/2"	54751		54666		
	4"	54752		54667		
	5"	54754		54669		
6"	54755		54670			
8"	54757		54672			
5/8"	5/8"	56499		56508		
	3/4"	56498		56509		
	1"	56497		56510		
	1-1/2"	56496		56511		
	2"	54760		54675		
	2-1/2"	54761		54676		
	3"	54762		54677		
	3-1/2"	54763		54678		
	4"	54764		54679		
	5"	54765		54680		
	6"	54766		54681		
	3/4"	3/4"	54770		54685	
		1"	56501		56512	
1-1/4"		57539		57351		
1-1/2"		56500		56513		
2"		54771		54686		
2-1/2"		54772		54687		
3"		54773		54688		
4"		54775		54690		
5"		54777		54692		
6"		54778		54693		
7/8"		7/8"	54781		54696	
		1"	56503		56514	
		1-1/2"	56502		56515	
	2"	54782		54697		
	3"	54784		54699		
	4"	54785		54700		
1"	6"	54786		54701		
	1"	54787		54702		
	1-1/4"	57540		57352		
	1-1/2"	56504		56516		
	2"	54788		54703		
	2-1/2"	54789		54704		
3"	54790		54705			
4"	54792		54707			
5"	54794		54709			
6"	54795		54710			

(Continued)



AIR-HARDENING PRECISION GROUND

FLAT STOCK (Continued)

(REGULAR AND OVERSIZED)

SERIES 684: 18" Lengths

SERIES 686: 36" Lengths

For Tolerances see page 625.

AIR HARDENING

Oversized Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
1/8"	1/2"	57541		57353	
	5/8"	57542		57354	
	3/4"	57543		57355	
	1"	57544		57356	
	1-1/4"	57545		57357	
	1-1/2"	57546		57358	
	1-3/4"	57547		57359	
	2"	57548		57360	
	2-1/2"	57549		57361	
	3"	57550		57362	
	3-1/2"	57551		57363	
	4"	57552		57364	
	5"	57553		57365	
6"	57554		57366		
7"	57555		57367		
8"	57556		57368		
10"	57557		57369		
12"	57558		57370		
5/32"	1/2"	57559		57371	
	3/4"	57560		57372	
	1"	57561		57373	
	1-1/4"	57562		57374	
	1-1/2"	57563		57375	
	2"	57564		57376	
	2-1/2"	57565		57377	
	3"	57566		57378	
	4"	57567		57379	
	5"	57568		57380	
6"	57569		57381		
8"	57570		57382		
3/16"	3/16"	57571		57383	
	1/2"	57572		57384	
	3/4"	57573		57385	
	1"	57162	56896	57386	56897
	1-1/4"	57163	56897	57387	56898
	1-1/2"	57164	56898	57388	56899
	1-3/4"	57574	57386	57389	56900
	2"	57165	56899	57390	56901
	2-1/2"	57166	56900	57391	56902
	3"	57167	56901	57392	56903
	3-1/2"	57575	57387	57393	56904
	4"	57168	56902	57394	56905
5"	57576	57388	57395	56906	
6"	57577	57389	57396	56907	
8"	57578	57390	57397	56908	
10"	57579	57391	57398	56909	
1/4"	1/4"	57580		57392	
	1/2"	57581		57393	
	3/4"	57582		57394	
	1"	57169	56903	57395	56904
	1-1/4"	57170	56904	57396	56905
	1-1/2"	57171	56905	57397	56906
	1-3/4"	57583	57395	57398	56907
	2"	57172	56906	57399	56908
	2-1/2"	57173	56907	57400	56909
	3"	57174	56908		56910
	3-1/2"	57584	57396		56911
	4"	57175	56909		56912
5"	57176	56910		56913	
6"	57177	56911		56914	
7"	57585	57397		56915	
8"	57586	57398		56916	
10"	57587	57399		56917	
12"	57588	57400		56918	

Oversized Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
5/16"	5/16"	57589		57401	
	1/2"	57590		57402	
	3/4"	57591		57403	
	1"	57178	56912	57404	56913
	1-1/4"	57179	56913	57405	56914
	1-1/2"	57180	56914	57406	56915
	1-3/4"	57592	57404	57407	56916
	2"	57181	56915	57408	56917
	2-1/2"	57593	57405		56918
	3"	57182	56916		57407
	3-1/2"	57594	57406		57408
	4"	57183	56917		
	5"	57184	56918		
6"	57595	57407			
8"	57596	57408			
3/8"	3/8"	57597		57409	
	1/2"	57598		57410	
	3/4"	57599		57411	
	1"	57185	56919	57412	56920
	1-1/4"	57186	56920	57413	56921
	1-1/2"	57187	56921	57414	56922
	1-3/4"	57600	57412	57415	56923
	2"	57188	56922	57416	56924
	2-1/2"	57189	56923	57417	56925
	3"	57190	56924	57418	56926
	3-1/2"	57191	56925	57419	56927
	4"	57192	56926	57420	56928
	4-1/2"	57601	57413	57421	56929
5"	57193	56927	57422	56930	
6"	57194	56928	57423	56931	
7"	57602	57414	57424	56932	
8"	57603	57415	57425	56933	
10"	57604	57416	57426	56934	
12"	57605	57417		56935	
1/2"	1/2"	57195		56929	
	5/8"	57606		57418	
	3/4"	57196		56930	
	1"	57197	56931	57419	56932
	1-1/4"	57607	57419	57420	56933
	1-1/2"	57608	57420	57421	56934
	1-3/4"	57609	57421	57422	56935
	2"	57198	56932	57423	56936
	2-1/2"	57199	56933	57424	56937
	3"	57200	56934	57425	56938
	3-1/2"	57201	56935	57426	56939
	4"	57202	56936		56940
	4-1/2"	57610	57422		56941
5"	57203	56937		56942	
6"	57204	56938		56943	
7"	57611	57423		56944	
8"	57612	57424		56945	
10"	57613	57425		56946	
12"	57614	57426		56947	
9/16"	2"	57615		57427	
	2-1/2"	57616		57428	
	3"	57617		57429	
	4"	57618		57430	
5/8"	5/8"	57205		56939	
	3/4"	57206		56940	
	1"	57207		56941	
	1-1/4"	57619	57431	57432	56942
	1-1/2"	57208	56942	57433	56943
	2"	57209	56943	57434	56944
	2-1/2"	57210	56944	57435	56945
	3"	57211	56945	57436	56946
	3-1/2"	57212	56946	57437	56947
	4"	57620	57432	57438	56948
5"	57621	57433	57439	56949	
6"	57622	57434	57440	56950	
8"	57623	57435	57441	56951	
10"	57624	57436	57442	56952	

(Continued)

STOCK MATERIALS

**AIR-HARDENING PRECISION
GROUND FLAT STOCK (Continued)**



(REGULAR AND OVERSIZED)
SERIES 684: 18" Lengths
SERIES 686: 36" Lengths

For Tolerances
see page 625.

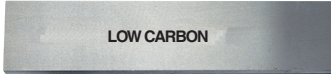


**LOW-CARBON PRECISION
GROUND FLAT STOCK**



SERIES 683: 24" Lengths

For Tolerances
see page 625.



STOCK MATERIALS

Oversized Specifications					
Thickness	Width	18" Length		36" Length	
		EDP No.	Price	EDP No.	Price
3/4"	3/4"	57213		56947	
	1"	57214		56948	
	1-1/4"	57625		57437	
	1-1/2"	57215		56949	
	1-3/4"	57626		57438	
	2"	57216		56950	
	2-1/2"	57627		57439	
	3"	57217		56951	
	3-1/2"	57628		57440	
	4"	57218		56952	
	4-1/2"	57629		57441	
	5"	57630		57442	
	6"	57631		57443	
7/8"	7/8"	57635		57447	
	1"	57636		57448	
	1-1/4"	57637		57449	
	1-1/2"	57638		57450	
	2"	57639		57451	
	2-1/2"	57640		57452	
	3"	57641		57453	
	3-1/2"	57642		57454	
	4"	57643		57455	
	5"	57644		57456	
1"	1"	57219		56953	
	1-1/4"	57646		57458	
	1-1/2"	57220		56954	
	1-3/4"	57647		57459	
	2"	57221		56955	
	2-1/2"	57648		57460	
	3"	57222		56956	
	3-1/2"	57649		57461	
	4"	57650		57462	
	4-1/2"	57651		57463	
	5"	57652		57464	
	6"	57653		57465	
1-1/4"	1-1/4"	57656		57468	
	1-1/2"	57657		57469	
	2"	57658		57470	
	2-1/2"	57659		57471	
	3"	57660		57472	
	4"	57661		57473	
	5"	57662		57474	
1-1/2"	1-1/2"	57664		57476	
	2"	57665		57477	
	2-1/2"	57666		57478	
	3"	57667		57479	
	3-1/2"	57668		57480	
	4"	57669		57481	
2"	2"	57671		57483	
	2-1/2"	57672		57484	
	3"	57673		57485	
	4"	57674		57486	
2-1/2"	2-1/2"	57675		57487	
3"	3"	57676		57488	

Our No. 498 Low Carbon Ground Flat Stock is a true free machining steel with the **best machinability** of any ground flat stock. On a relative machinability rating of 100 for AISI 1018 steel, our No. 498 low carbon ground flat stock has a machinability rating of 137. Because of its free machining characteristics, you get longer cutting tool life, better finish, faster production and lower machining costs.

- **Substantial cost reductions over tool steel ground flat stock.** There are savings up to 60% because this a low carbon steel and furnished in 24" lengths. This means that you get one-third more steel at less cost.
- **Ideal for a wide variety of parts that don't require more expensive heat treated steels,** such as stripper plates, jigs, fixtures, machine and component parts, templates, etc.
- **This free machining steel can be carburized or case hardened.** After hardening, its physical properties, especially tensile strength, yield point, and Brinell hardness, are substantially higher
- **Note:** Thickness of 1/8" and under are made from AISI 1010 material.

Specifications

Furnished in 24" (610mm) lengths, ground straight and parallel

Analysis

Starrett No. 498 Free Machining Low Carbon Precision Ground Flat Stock is a .17 carbon fine-grained, killed steel of forging quality which can be carburized or case hardened. Very similar to AISI 1117.

Heat Treatment

For many applications, stock can be used unhardened. However, if surface hardening is desired, it can be carburized or case hardened. If carburized, a case of 1/32" will be obtained if the steel is held in carburizing salt at 1700 °F for three hours.

Regular Size Specifications			
Thickness	Width	EDP No.	Price
1/16"	1/2"	54866	
	3/4"	54867	
	1"	54868	
	1-1/4"	54869	
	1-1/2"	54870	
	2"	54871	
	2-1/2"	54872	
	3"	54873	
	3-1/2"	54874	
	4"	54875	
	5"	54876	
	6"	54877	
3/32"	1/2"	54881	
	3/4"	54882	
	1"	54883	
	1-1/4"	54884	
	1-1/2"	54885	
	2"	54886	
	2-1/2"	54887	
	3"	54888	
	4"	54889	
	5"	54890	
	6"	54891	
	8"	54892	

(Continued)

**LOW-CARBON PRECISION
GROUND FLAT STOCK** (Continued)
SERIES 683: 24" Lengths

LOW CARBON



Regular Size Specifications			
Thickness	Width	EDP No.	Price
1/8"	1/2"	54893	
	3/4"	54894	
	1"	54895	
	1-1/4"	54896	
	1-1/2"	54897	
	2"	54898	
	2-1/2"	54899	
	3"	54900	
	3-1/2"	54901	
	4"	54902	
	5"	54903	
	6"	54904	
5/32"	1/2"	54908	
	3/4"	54909	
	1"	54910	
	1-1/4"	54911	
	1-1/2"	54912	
	2"	54913	
	2-1/2"	54914	
	3"	54915	
	4"	54917	
	5"	54918	
	6"	54919	
	3/16"	3/16"	57247
1/2"		54921	
3/4"		54922	
1"		54923	
1-1/4"		54924	
1-1/2"		54925	
2"		54926	
2-1/2"		54927	
3"		54928	
3-1/2"		54929	
4"		54930	
5"		54931	
1/4"	1/4"	57249	
	1/2"	54935	
	3/4"	54936	
	1"	54937	
	1-1/4"	54938	
	1-1/2"	54939	
	2"	54940	
	2-1/2"	54941	
	3"	54942	
	3-1/2"	54943	
	4"	54944	
	5"	54945	
5/16"	5/16"	57250	
	1/2"	54950	
	3/4"	54951	
	1"	54952	
	1-1/4"	54953	
	1-1/2"	54954	
	2"	54955	
	2-1/2"	54956	
	3"	54957	
	3-1/2"	54958	
	4"	54959	
	5"	54960	

Regular Size Specifications				
Thickness	Width	EDP No.	Price	
3/8"	3/8"	54964		
	1/2"	54965		
	3/4"	54966		
	1"	54967		
	1-1/4"	54968		
	1-1/2"	54969		
	2"	54970		
	2-1/2"	54971		
	3"	54972		
	3-1/2"	54973		
	4"	54974		
	7/16"	7/16"	54982	
1/2"		1/2"	54983	
		3/4"	54984	
		1"	54985	
		1-1/4"	54986	
		1-1/2"	54987	
		2"	54988	
		2-1/2"	54989	
		3"	54990	
		3-1/2"	54991	
		4"	54992	
		5"	54993	
	9/16"	9/16"	55000	
5/8"		5/8"	55001	
		3/4"	55002	
		1"	55003	
		1-1/4"	55004	
		1-1/2"	55005	
		2"	55006	
		2-1/2"	55007	
		3"	55008	
		3-1/2"	55009	
		4"	55010	
		5"	55011	
	3/4"	3/4"	55017	
1"		55018		
1-1/4"		55019		
1-1/2"		55020		
2"		55021		
2-1/2"		55022		
3"		55023		
3-1/2"		55024		
4"		55025		
5"		55026		
6"		55027		
7"		57254		
8"	55028			
9"	55029			
10"	55030			
12"	55031			

Regular Size Specifications				
Thickness	Width	EDP No.	Price	
7/8"	7/8"	55032		
	1"	55033		
	1-1/4"	55034		
	1-1/2"	55035		
	2"	55036		
	2-1/2"	55037		
	3"	55038		
	3-1/2"	57255		
	4"	55039		
	6"	55040		
	1"	1"	55041	
		1-1/4"	55042	
1-1/2"		55043		
2"		55044		
2-1/2"		55045		
3"		55046		
3-1/2"		55047		
4"		55048		
5"		55049		
6"		55050		
7"		57256		
8"		55051		
1-1/4"	1-1/4"	55055		
	1-1/2"	55056		
	2"	55057		
	2-1/2"	55058		
	3"	55059		
	4"	55060		
	5"	55061		
	6"	55062		
	8"	55063		
	10"	55065		
	12"	57257		
	1-1/2"	1-1/2"	55066	
2"		55067		
2-1/2"		55068		
3"		55069		
3-1/2"		55070		
4"		55071		
5"		55072		
6"		55073		
8"		55074		
10"		55075		
2"		2"	55076	

TOLERANCES	
Regular:	Thickness $\pm .001$ " Width up to 8", $+.000/.005$ " 9" and over, $+.000/.015$ " Squares, $\pm .001$ "
Oversize:	Thickness, $+.010/.015$ " Width, $+.010/.015$ " Squares, $+.010/.015$ "
Length: Saw cut oversize to allow for finish cutting	18", $+1/4$ " 24", $+1/2$ " 36", $+5/8$ "
Squareness Edge All:	.003 per inch
Finish:	35 microinch or finer

STOCK MATERIALS