

OIL HARDENING PRECISION GROUND FLAT STOCK

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



OIL HARDENING

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)

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	-	-	-
	3"	53931	-	-	-
1/32"	4"	53932	-	-	-
	1/2"	53933	-	-	-
	3/4"	53934	-	-	-
	1"	53935	-	-	-
	1-1/4"	53936	-	-	-
	1-1/2"	53937	-	-	-
	2"	53938	-	-	-
	2-1/2"	53939	-	-	-
3/64"	3"	53940	-	-	-
	4"	53941	-	-	-
	6"	53942	-	-	-
	1/2"	53943	-	-	-
	3/4"	53944	-	-	-
	1"	53945	-	-	-
	1-1/4"	53946	-	-	-
	1-1/2"	53947	-	-	-
1/16"	2"	53948	-	-	-
	2-1/2"	53949	-	-	-
	3"	53950	-	-	-
	3-1/2"	53951	-	-	-
	4"	53952	-	-	-
	6"	53953	-	-	-
	1/4"	57226	-	-	-
	3/8"	57227	-	-	-
5/64"	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	-	-
	6"	53966	54269	-	-
	8"	53967	57236	-	-
	10"	53968	57237	-	-
5/64"	1/2"	53969	-	-	-
	3/4"	53970	-	-	-
	1"	53971	-	-	-
	1-1/2"	53972	-	-	-
	2"	53973	-	-	-
	2-1/2"	53974	-	-	-
	3"	53975	-	-	-
	4"	53976	-	-	-
5/64"	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	-
	2-1/2"	53984	-	54285	-
	3"	53985	-	54286	-
	4"	53986	-	54287	-
7/64"	5"	53987	-	54288	-
	6"	53988	-	54289	-
	8"	53989	-	-	-
	1/2"	53990	-	-	-
	3/4"	53991	-	-	-
	1"	53992	-	-	-
1/8"	1-1/4"	53993	-	-	-
	1-1/2"	53994	-	-	-
	2"	53995	-	-	-
	3"	53996	-	-	-
	4"	53997	-	-	-
	1/8"	53998	-	-	-
9/64"	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	-
	4"	54010	-	54309	-
	4-1/2"	54011	-	54310	-
	5"	54012	-	54311	-
	6"	54013	-	54312	-
	7"	54014	-	54313	-
	8"	54015	-	54314	-
9/64"	10"	54016	-	54315	-
	12"	54017	-	54316	-
	14"	54018	-	57238	-
	9/64"	54019	-	-	-
	1/2"	54020	-	-	-
	3/4"	54021	-	-	-
	1"	54022	-	-	-
	1-1/2"	54023	-	-	-
9/64"	2"	54024	-	-	-
	3"	54025	-	-	-
	4"	54026	-	-	-
	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.

OIL HARDENING

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	
1/4"	4"	54066		54360	
	6"	54067		-	
	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	
3/8"	5"	54113		54403	
	6"	54114		54404	
	8"	54115		54405	
	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	
7/16"	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"	54136		54426	
	1/2"	54137		54427	
	3/4"	54138		54428	
1/2"	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"	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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OIL HARDENING PRECISION GROUND FLAT STOCK (Continued)

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	
	2"	54171		54460	
5/8"	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	
3/4"	10"	54186		54475	
	12"	57235		57242	
	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	
7/8"	8"	54199		54488	
	10"	54200		54489	
	12"	54201		54490	
	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	
1"	3"	54208		54497	
	4"	54209		54498	
	6"	54210		54499	
	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	
1-1/2"	10"	54239		54528	
	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	
2"	8"	54248		54537	
	10"	54249		54538	
	2"	54250		54539	
	3"	54251		54540	
	4"	54252		54541	
3/16"	6"	54253		54542	
	10"	619690		-	
	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	
1/4"	3"	56965		56820	
	4"	56966		56821	
	5"	56967		-	
	6"	56968		56822	
	8"	56969		-	
	10"	56970		-	
	1/4"	56971		-	
	1/2"	56972		56823	
	3/4"	56973		56824	
	1"	56974		56825	
5/16"	1-1/4"	56975		56826	
	1-1/2"	56976		56827	
	1-3/4"	56977		-	
	2"	56978		56828	
	2-1/2"	56979		56829	
	3"	56980		56830	
	3-1/2"	56981		56831	
	4"	56982		56832	
	4-1/2"	56983		-	
	5"	56984		56833	
3/8"	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	
7/16"	3"	56995		56842	
	4"	56996		56843	
	5"	56997		56844	
	6"	-		56845	

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**OIL HARDENING PRECISION
GROUND FLAT STOCK**

(Continued)

(REGULAR SIZE AND OVERSIZED)

SERIES 783: 18" Lengths

SERIES 784: 36" Lengths

For Tolerances see
page 625.

OIL HARDENING

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	

**AIR-HARDENING PRECISION
GROUND FLAT STOCK**

(REGULAR AND OVERSIZED)

SERIES 684: 18" Lengths

SERIES 686: 36" Lengths



For Tolerances see page 625.

AIR HARDENING

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	
	4"	57497		57309	
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

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	
5/32"	7"	57509		57321	
	8"	57510		57322	
	10"	57511		57323	
	12"	57512		57324	
3/16"	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	
1/4"	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	
1/2"	7"	57521		57333	
	8"	57522		57334	
	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"	54770		54685	
	1"	56501		56512	
	1-1/4"	57539		57351	
3/4"	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"	54781		54696	
	1"	56503		56514	
	1-1/2"	56502		56515	
	2"	54782		54697	
	3"	54784		54699	
	4"	54785		54700	
	6"	54786		54701	
1"	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	
5/32"	10"	57557		57369	
	12"	57558		57370	
	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	
3/16"	4"	57567		57379	
	5"	57568		57380	
	6"	57569		57381	
	8"	57570		57382	
	3/16"	57571		57383	
	1/2"	57572		57384	
	3/4"	57573		57385	
	1"	57162		56896	
	1-1/4"	57163		56897	
	1-1/2"	57164		56898	
	1-3/4"	57574		57386	
	2"	57165		56899	
1/4"	2-1/2"	57166		56900	
	3"	57167		56901	
	3-1/2"	57575		57387	
	4"	57168		56902	
	5"	57576		57388	
	6"	57577		57389	
	8"	57578		57390	
	10"	57579		57391	
	1/4"	57580		57392	
	1/2"	57581		57393	
1/2"	3/4"	57582		57394	
	1"	57169		56903	
	1-1/4"	57170		56904	
	1-1/2"	57171		56905	
	1-3/4"	57583		57395	
	2"	57172		56906	
	2-1/2"	57173		56907	
	3"	57174		56908	
	3-1/2"	57584		57396	
	4"	57175		56909	
	5"	57176		56910	
	6"	57177		56911	
	7"	57585		57397	
	8"	57586		57398	
	10"	57587		57399	
	12"	57588		57400	

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	
	1-1/4"	57179		56913	
	1-1/2"	57180		56914	
	1-3/4"	57592		57404	
	2"	57181		56915	
	2-1/2"	57593		57405	
	3"	57182		56916	
	3-1/2"	57594		57406	
	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	
	1-1/4"	57186		56920	
	1-1/2"	57187		56921	
	1-3/4"	57600		57412	
	2"	57188		56922	
	2-1/2"	57189		56923	
	3"	57190		56924	
	3-1/2"	57191		56925	
	4"	57192		56926	
	4-1/2"	57601		57413	
	5"	57193		56927	
	6"	57194		56928	
	7"	57602		57414	
1/2"	8"	57603		57415	
	10"	57604		57416	
	12"	57605		57417	
	1/2"	57195		56929	
	5/8"	57606		57418	
	3/4"	57196		56930	
	1"	57197		56931	
	1-1/4"	57607		57419	
	1-1/2"	57608		57420	
	1-3/4"	57609		57421	
	2"	57198		56932	
	2-1/2"	57199		56933	
	3"	57200		56934	
	3-1/2"	57201		56935	
	4"	57202		56936	
	4-1/2"	57610		57422	
9/16"	5"	57203		56937	
	6"	57204		56938	
	7"	57611		57423	
	8"	57612		57424	
	10"	57613		57425	
	12"	57614		57426	
	2"	57615		57427	
	2-1/2"	57616		57428	
5/8"	3"	57617		57429	
	4"	57618		57430	
	5/8"	57205		56939	
	3/4"	57206		56940	
	1"	57207		56941	
	1-1/4"	57619		57431	
	1-1/2"	57208		56942	
	2"	57209		56943	
	2-1/2"	57210		56944	
	3"	57211		56945	
	3-1/2"	57212		56946	
	4"	57620		57432	
	5"	57621		57433	
	6"	57622		57434	
	8"	57623		57435	
	10"	57624		57436	

(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

LOW-CARBON PRECISION GROUND FLAT STOCK

SERIES 683: 24" Lengths



For Tolerances
see page 625.

LOW CARBON

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)

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	
7/8"	6"	57631		57443	
	8"	57632		57444	
	10"	57633		57445	
	12"	57634		57446	
	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	
1"	4"	57643		57455	
	5"	57644		57456	
	6"	57645		57457	
	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	
1-1/4"	4-1/2"	57651		57463	
	5"	57652		57464	
	6"	57653		57465	
	8"	57654		57466	
	12"	57655		57467	
	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"	6"	57663		57475	
	1-1/2"	57664		57476	
	2"	57665		57477	
	2-1/2"	57666		57478	
	3"	57667		57479	
	3-1/2"	57668		57480	
	4"	57669		57481	
	6"	57670		57482	
	2"	57671		57483	
	2-1/2"	57672		57484	
	3"	57673		57485	
	4"	57674		57486	
2-1/2"	2-1/2"	57675		57487	
	3"	57676		57488	

LOW-CARBON PRECISION GROUND FLAT STOCK (Continued)

SERIES 683: 24" Lengths

LOW CARBON



STOCK MATERIALS

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	
	5"	54975	
7/16"	7/16"	54982	
	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	
1/2"	1/2"	54994	
	3/4"	54995	
	1"	54996	
	1-1/4"	54997	
	1-1/2"	54998	
	2"	54999	
	2-1/2"	55000	
	3"	55001	
	3-1/2"	55002	
	4"	55003	
	5"	55004	
	6"	55005	
5/8"	5/8"	55006	
	1"	55007	
	1-1/4"	55008	
	1-1/2"	55009	
	2"	55010	
	2-1/2"	55011	
	3"	55012	
	3-1/2"	55013	
	4"	55014	
	5"	55015	
	6"	55016	
	7"	55017	
3/4"	3/4"	55018	
	1"	55019	
	1-1/4"	55020	
	1-1/2"	55021	
	2"	55022	
	2-1/2"	55023	
	3"	55024	
	3-1/2"	55025	
	4"	55026	
	5"	55027	
	6"	55028	
	7"	55029	

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	
1-1/4"	1-1/4"	55051	
	1-1/2"	55052	
	2"	55053	
	2-1/2"	55054	
	3"	55055	
	4"	55056	
	5"	55057	
	6"	55058	
	8"	55059	
	10"	55060	
	12"	55061	
1-1/2"	1-1/2"	55062	
	2"	55063	
	2-1/2"	55064	
	3"	55065	
	3-1/2"	55066	
	4"	55067	
	5"	55068	
	6"	55069	
	8"	55070	
	10"	55071	
	12"	55072	
2"	2"	55073	
	2"	55074	
	2"	55075	
	2"	55076	
	2"	55077	
	2"	55078	
	2"	55079	
	2"	55080	
	2"	55081	
	2"	55082	
	2"	55083	
	2"	55084	

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:	18", $+1/4"$ 24", $+1/2"$ 36", $+5/8"$
Squareness Edge All:	.003 per inch
Finish:	35 microinch or finer