

Tool steel description

L %	C	Si	Mn	Cr	Ni	Mo	W	V	S
1.1730	0,45	0,30	0,70						0,04
1.1183	0,36	0,30	0,70						
1.1241	0,50	0,30	0,80						
1.1545	1,00	0,20	0,70						

Cold work steel according to DIN 17350
EN-ISO4957

C 45 W / 1.1730

Ck 45

★★

The most used unalloyed tool steel

This case-hardening unalloyed tool steel is normally used as delivered. The dominant element in carbon. The maximum working temperature is 200°C (390°F) requirements. Due to its excellent price this steel is mostly used for Structural components for plastic tools and devices of lesser requirements.

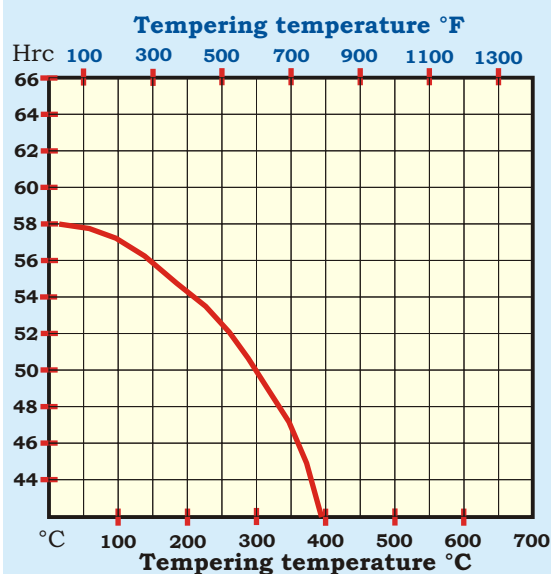
HARDENING: Hardening temperature should be at 750° to 850°C (1400°-1520F°). Tempering after hardening at 200° - 350°C (390 -650°F)

Typical Applications

Holder blocks for injection molding.
Mould and toolmaking attachments. P-Plates.
Bolsters, guides. Tools for blow mouldings.

General Characteristics

Very good machinability and toughness properties.
Supplied tensile strength max.190HB (640N/mm)²
Normalised. Naturally hard.



Forging.....: 1050- 850°C (1920 - 1560°F) cool down slowly

Soft annealing.....: 680 - 710 °C (1225 - 1310°F)
annealed condition max. 190 HB, (640 N/mm)²
4 - 6 hrs Furnace Cooling

Stress relieving.....: 600- 650 °C (1080 - 1170°F) cool down slowly

Preheating for hardening: 350°C (630°F) depending on size

Hardening temperature...: 800 - 830°C (1440 -1500 °F)

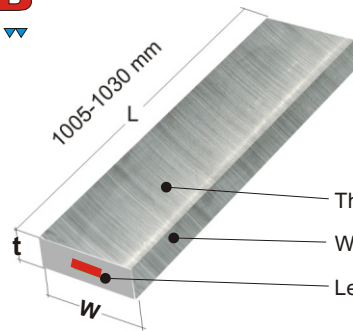
Quenching temperature....: 800 - 830°C (1440 - 1500°F) Water

Tempering.....: 180°C (265°F) min. 1h

Density.....: Kg/dm³ 7,85 Thermal Conductivity W/(m.K.) 50

Offer and prices for SAE 1045 (1.1730)

	Length mm	page
Material description		27 i
Pre-machined (oversize) I	1030	28 Prices
Pre-machined universal plates	various	29 Prices
Universal bar and plate	505 / 1030	30 Prices
Round bar peeled	1030	30 Prices
P-Plaes (press plates)	various	31 Prices
Decarb free plates 508 x 1030mm, Thick. 8,2 to 100,4		55 Prices



Thickness:

Tolerance

+ 0,2/0 mm

Width:

+ 0,2/0 mm

Length:

+ 5/0 mm

Surface

N8 Segmental ground, fine milled (Ra 3,2)

N8 Segmental ground, fine milled (Ra 3,2)

N11 Sawn only (Ra 25)



Delivery: EX STOCK

PRICELIST EUR/pc

Length: 1000 mm

	6,2	8,2	10,4	12,4	15,4	16,4	20,4	22,4	25,4	27,4	30,4	32,4	36,4	40,4	46,4	50,4	56,4	60,4	70,4	76,4	80,4	90,4	100,4	120,4	150,4
20,4	12	12	13	15	16		21																		
25,4	13	13	14	17	18		23		31																
30,4	15	16	18	19	23		27		32		40														
32,4						28	32		37			47													
40,4	16	17	18	21	24		32		35		41	48		51											
50,4	20	21	25	28	31		35		39		52	56		57		71									
60,4		26	30	32	35		40		45		57	62		63		71		96							
63,4			35	40	42		48		54		64			71		88									
70,4		31	33	35	38		45		51		60			68		83		102	109						
80,4		35	37	45	48		49		56		68			72		92		108	126		135				
90,4			40	49	53		55		62		74			81		101		114	129		164	179			
100,4	39	42	44	56	57	65	62	70	69	85	81	87	95	91	115	111	129	123	133	168	154	179	188		
110,4					71		76		81		96		106												
120,4		48	54	63	69		77		83		97			104		120		144	152		162		203	211	
130,4					76		92		97		120			128											
140,4		64	68	77	83		96		97		118	128		132		140		155	163		179	210	215		
150,4	57	66	71	80	87		97		103		120	128		137		145		159	167		183	210	219	323	368
156,4				92				107		126			137		152		172			195					
160,4							102		111		129			140											
180,4			79	92	98		108		116		136			147		162		193	210		224				
196,4				103				135		154			168		184		225			256					
200,4		83	90	98	106		111		130		155	160		164		186		225	239		254		286		491
220,4					122		131		154		172			199		205									
246,4				127				164		185			222		240		275			299					
250,4		110	110	122	130		141		157		183	195		218		238		266			294		336		
296,4				146				193		215			238		256		289			348					
300,4		127	126	139	154		164		187		216			232		253		284	306		330		395		
350,4					205		204		227		251			292		347									
396,4								247		252			285		359		375			464					
*405					188		210		237		255			315		375									
*505		142	162	188	198		216	248	270	285	296	320	365	378	412	444	495	506	528		558		632		

*Plates: Thickness ground. Width and Length sawn.

SQUARES

	6,2	8,2	10,4	12,4	15,4	16,4	20,4	22,4	25,4	27,4	30,4	32,4	36,4	40,4	46,4	50,4	56,4	60,4	70,4	76,4	80,4	90,4	100,4	120,4	150,4
€			17	18	19		20		31		40	47		51			71	96	109		135	179	188	211	368

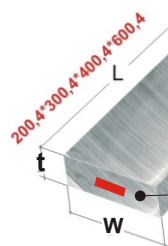
Tol: +0,4/0 mm

NON STANDARD SIZES UPON REQUEST

Hardening and Machining instructions see page 27

Delivery condition: 775N/mm² (230HB max.)Colour code for 1045 / 1.1730 **RED**

hardenable to: Hrc 56 - 57 depending on application



Thickness:

Tolerance

+ 0,2/0 mm

Surface

N8 Segmental ground, fine milled (Ra 3,2)

Width:

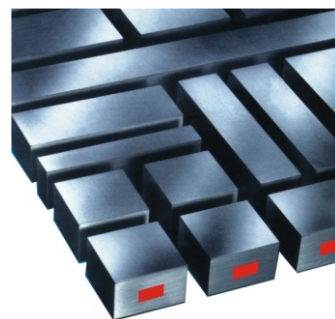
+0,4/0 mm

N8 Segmental ground, fine milled (Ra 3,2)

Length:

+0,2/0 mm

N8 Segmental ground, fine milled (Ra 3,2)



UNIVERSAL PLATES

Delivery: EX STOCK

PRE-MACHINED (over size)

PRICELIST EUR/pc

Length: 200,4 * 300,4 * 400,4 * 600,4 mm

Length: 200,4 mm

Length: 200,4 mm

<div><div>w</div><div>t</div></div>	15,4	20,4	25,4	30,4	40,4	50,4	60,4	80,4	100,4
100,4	17,20	19,30	20,00	22,00	27,40	29,20	31,00	37,00	44,00
150,4	25,00	27,00	29,00	33,00	40,00	43,00	46,00	56,00	67,00
200,4	32,00	34,00	36,50	42,00	51,50	54,50	59,00	72,00	85,00

Length: 300,4 mm

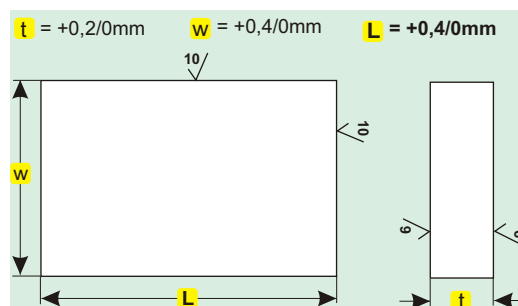
	15,4	20,4	25,4	30,4	40,4	50,4	60,4	80,4	100,4
100,4	24,00	27,00	29,00	32,00	40,00	44,00	47,00	53,00	64,00
150,4	31,00	32,00	36,00	39,00	46,00	52,00	58,00	70,00	83,00
200,4	43,00	46,00	53,00	56,00	62,00	69,00	79,00	99,00	110
250,4	50,00	53,00	59,00	65,00	74,00	85,00	93,00	117	136
300,4	56,00	59,00	65,00	73,00	84,50	99,50	108	134	162

Length: 400,4 mm

	15,4	20,4	25,4	30,4	40,4	50,4	60,4	80,4	100,4
100,4	32,00	36,00	38,00	42,00	52,00	55,00	58,00	70,00	83,00
150,4	45,00	52,00	54,00	56,00	66,00	72,00	77,00	98,00	116
200,4	58,00	68,00	70,00	77,00	80,00	86,00	95,00	122	148
250,4	65,00	70,00	74,00	82,00	93,00	105	121	149	176
300,4	71,00	74,00	77,00	88,00	106	124	148	178	204
400,4	82,00	93,00	105	120	139	162	182	232	262

Length: 600,4 mm

	15,4	20,4	25,4	30,4	40,4	50,4	60,4	80,4	100,4
100,4	43,00	50,00	54,00	59,00	70,00	79,00	86,00	96,00	112
150,4	54,00	67,00	78,00	87,00	103	117	127	141	165
200,4	70,00	86,00	100	112	133	150	163	182	212
250,4	84,00	103	120	134	160	180	196	218	254
300,4	92,00	113	132	147	172	200	215	239	279
400,4	108	124	157	163	191	233	252	288	372
500,4	139	162	187	199	228	259	287	332	433



UNIVERSAL PLATES: the thickness is fine milled or segmental ground. Width and length fine milled.

These prices are used to calculate the price of NON STANDARD Sizes as shown below.

Price example:

Your size = 192 x 48 x 378 mm = Euro 86,--

Price of 200,4 x 50,4 x 400,4 mm = Euro 86,-

We charge the price of the nearest larger standard size.

MINIMUM order value for non standard sizes

Euro 120,-- per size

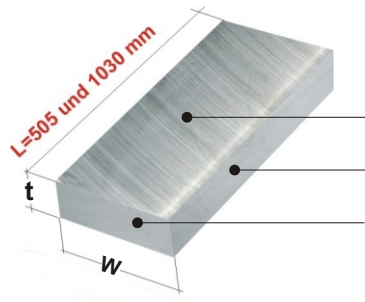
NON STANDARD SIZES UPON REQUEST

Hardening and Machining instructions see page 27



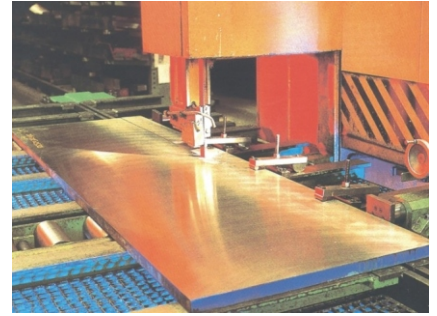
C 45 W / 1.1730

SAE 1045



	Tolerance	Surface
Thickn.: + 0,2/0 mm	N8 pre-machined (Ra 3,2)	
Width : ±2 mm	N11 sawn (Ra 25)	
Length : ±2 mm	N11 sawn (Ra 25)	

DECARB FREE



**Any width between
53 and 505 mm
available**

UNIVERSAL BAR and PLATE

PRICELIST EUR/pc.

For length **505** mm. For length 1030 mm Prices **x2**

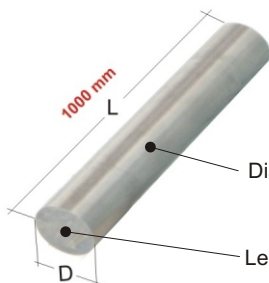
W	8,2	10,4	12,4	15,4	20,4	25,4	30,4	40,4	50,4	60,4	70,4	80,4	100,4
103	22	23	27	28	30	33	39	43	52	59	63	76	87
113	25	27	29	33	35	37	44	51	56	64	67	77	94
123	27	28	31	34	38	40	46	51	58	68	70	78	99
133	28	30	36	39	42	44	55	58	67	72	74	81	100
143	30	32	36	39	44	46	56	59	66	75	77	84	101
153	31	33	37	40	44	47	58	60	67	76	78	86	106
163	34	36	40	44	48	50	62	65	71	84	86	96	113
183	37	39	43	45	49	54	64	67	76	91	96	106	120
203	40	43	47	50	53	61	72	77	86	105	110	118	136
223	45	48	52	55	59	70	78	90	93	116	121	128	146
253	50	52	58	61	66	74	85	102	110	127	133	138	159
303	55	60	66	72	77	87	102	110	119	134	137	160	190
353	60	66	74	92	98	110	119	136	165				
403	65	70	80	96	104	116	129	157	179				
505	71	81	94	99	108	135	148	189	222	253	264	279	316

NON STANDARD SIZES UPON REQUEST



ROUND BAR

PEELED (oversize)



	Tolerance	Surface
Diameter: ± 0,3 mm	N11 peeled (Ra 25)	
Length: + 5/0 mm	N11 sawn (Ra 25)	



Delivery: EX STOCK

Length: **1000 mm**

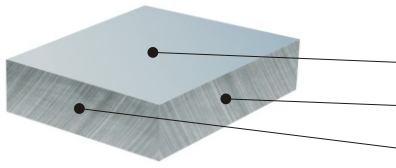
mm	21	26	31	41	51	61	71	81	91	101	121	131	141	151	181	202
€					45,00	67,20	81,60	126		162	182	201				

Hardening and Machining instructions see page 27

Delivery condition: 775N/mm² (230HB max.)

Colour code for 1045 / 1.1730 **RED**

hardenable to: Hrc 56 - 57 depending on application



	Tolerance	Surface
Thickness:	+ 0,2/0 mm	N7 line ground (Ra 1,6)
Width :	+ 0,4/0 mm	N8 fine milled (Ra 3,2)
Length :	+ 0,4/0 mm	N8 fine milled (Ra 3,2)



Delivery: EX STOCK

PRICELIST EUR/pc.

		Thickness →																	
W ↓	L	10	12	17	20	22	25	27	32	36	40	46	50	56	76	96	116	136	156
100 x 100		14,00			18,00		19,50		22,50		24,50								
126 x	126		17,00	18,50		21,00		22,50		25,00									
	156		18,00	19,50		21,50		23,00		26,00									
150 x 150		18,50			21,50		23,00		26,50		30,50								
156 x	156		19,50	20,50		22,50		23,50		32,50		35,00		39,50	45,00				
	196		23,50	25,00		27,00		29,50		33,00				44,00	54,50				
	246		26,00	31,50		34,00		36,50		43,50		49,00		54,50	68,00				
	296							43,00		48,50		56,50		65,00	79,00				
196 x	196		27,50	31,50		34,00		36,50		43,00		49,00		54,50	68,00	82,00			
	246		32,50	35,00		38,00		42,00		47,00		55,50		64,00	78,50	94,50			
	296		39,00	43,00		47,00		49,50		56,50		64,50		74,50	94,50	111			
	346		41,00	45,00		49,50		54,50		63,50		71,00		84,50	106	129			
	396							58,50		67,50		80,50		94,00	119	141			
200 x 200		27,50			34,00		36,50		43,00		51,50		54,50						
246 x	246		39,50	42,50		46,50		51,50		58,00		67,50		76,00	94,50	118			
	296			47,00		52,00		57,50		67,00		76,00		89,50	111	134			
	346					58,00		64,00		72,50		84,00		97,00	124	148	175		
	396					64,50		69,50		82,50		95,00		110	136	163	193		
	446							78,00		91,00		106		117	150	180	212		
	496							85,50		100		116		133	163	196	231		
250 x 250		39,00			46,00		51,00		57,50		67,00		75,50						
296 x	296			53,00		58,00		61,00		74,50		85,50		99,00	126	151	178		
	346			63,50		68,50		73,00		85,50		99,00		114	142	169	200		
	396			71,00		76,50		78,50		97,00		112		128	158	189	224		
	446					82,50		91,50		108		124		141	174	208	245		
	496							99,00		117		135		153	189	234	263		
	546							108		128		146		167	205	245	286		
	596							117		136		159		180	223	266	311		
	696									156		180		205	257	307	358		
300 x 300		49,00			59,00		65,00		74,00		84,50		99,50						
300 x 400		62,00			76,00		82,00		97,50		112		128						
346 x	346			71,50		77,00		83,00		98,50		113		127	162	192	227		
	396			77,00		85,50		94,00		107		128		145	180	214	252		
	446					94,50		104		122		141		159	206	235	273		
	496					103		122		133		155		175	218	260	301		
	596									156		180		205	291	307	356	408	
	696									180		210		240	300	357	417	478	
396 x	396					95,00		106		123		143		163	200	239	277		
	446					106		117		136		158		179	223	267	296		
	496					117		128		149		173		194	246	293	342	390	
	546					128		138		162		188		216	270	322	376	428	
	596							161		176		205		234	295	350	408	466	
	696											236		273	338	406	472	549	609
400 x 400		88,00			93,00		105		121		139		161						
400 x 600		106			124		157		163		191		233						
446 x	446						128			150		175		199	261	296	347		
	496							150		166		193		220	276	329	384	438	
	546									181		212		250	302	361	423	482	
	596									197		230		263	328	394	458	524	
	696											291		300	377	453	530	605	683
496 x	496											214		243	305	371	424	483	547
	546											233		266	334				
	596											252		288	360	433	507	578	652
	696											290		329	414	509	584	672	750
500 x 500		106			123		156		171		200		218						
546 x	546											252		290	364	436	509	577	656
	596											272		312	391	472	557	632	712
	696											282		337	423	512	598	686	774
	796																		

NON STANDARD SIZES and OTHER GRADES UPON REQUEST