

# Cutting Edges

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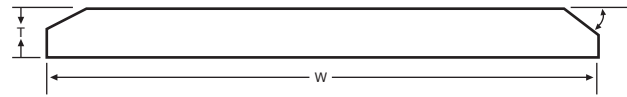
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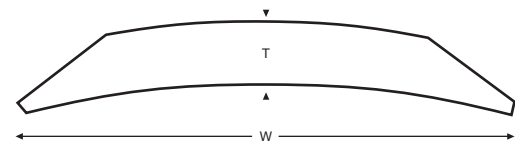
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**Corus Special Profiles is a business within Corus, the international metals company. We specialise in hot rolled special profiles in steel for a variety of industries around the world. This includes a wide range of profiles for the earthmoving equipment industry.**

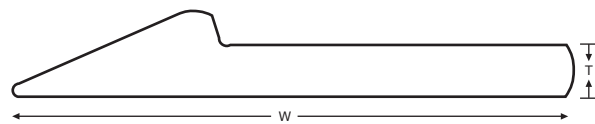
Customers can choose from an extensive range of "open roll" profiles, or specify unique designs, where rolls and tooling will be reserved for individual customer use. Please refer to our open roll profiles below.



Double Bevel Flats					
Profile	Width		Thickness		Bevel Angle
	mm	inches*	mm	inches*	
SK1136	203	8	16-28.5	5/8-1	25°
SK836	254	10	19-45	3/4-1 3/4	25°
SK837	254	10	19-45	3/4-1 3/4	35°
SK736	279	11	25-35	1-1 3/8	22° 30'
SK737	279	11	25-35	1-1 3/8	35°
SK636	305	12	22-44.5	3/4-1 3/4	22° 30'
SK637	305	12	25-41	3/4-1 3/4	35°
SK536	330	13	19-60	3/4-2 3/8	22° 30'
SK537	330	13	19-60	3/4-2 3/8	35°
SK359	359	14 13/16	30-50	1 3/16-2	22° 30'
SK436	406	16	22-60	7/8-1 5/8	22° 30'
SK336	406	16	22-41	7/8-1 5/8	35°
SK1436	480	19	35-45	1 3/8-1 3/4	22° 30'



Grader Bars (Carbon and Boron Steel)				
Profile	Width		Thickness	
	mm	inches*	mm	inches*
GB6	152	6	12.7-19.0	1/2-3/4
GB8	203	8	15.9-25.4	5/8-1



Arrowhead (Wedge Edge) Flats				
Profile	Width		Thickness	
	mm	inches*	mm	inches*
SK1336	203	8	19-31.8	3/4-1 1/4
SK1225	255	10	28.5-40	1 1/8-1 5/8

An extensive range of cutting edge profiles are available for wear part applications. Details of open roll profiles are available above. In addition, a range of unique designs can be supplied from reserved rolls by agreement.

A range of **high carbon and heat treatable boron steel** specifications are available. These include a standard range of steels, for which composition details are available on the facing page.

The **standard boron steel** range provides high strength and toughness after heat treatment. This makes them a popular choice for "bolt on" parts for bulldozer blades and bucket edges. They can be used for "weld in" applications when using an appropriate welding procedure.

The standard range of **high carbon steels** offer lower tensile strength and toughness compared with the boron steel range. These steels are particularly suitable for motor grader applications.

## Standard Steels.

We offer three boron treated steels with a nominal carbon content of 0.3%. Increasing levels of alloy content are available to allow customers to match section thickness

and heat treatment quench severity with hardenability. This ensures a suitable core hardness is achieved in the finished blade.

Steel Spec.	C	Si	S	P	Mn	Cr	B	Jominy Hardenability (1/16")					
								J1	J3	J5	J7	J8	
SK-15-A	0.30	0.15			1.00		0.0005	R <sub>c</sub> max.	56				38
	0.35	0.35	0.05	0.04	1.30	0.20	0.0030		R <sub>c</sub> min.	48	45	40	
SK-15-B	0.30	0.15			1.10	0.10	0.0005	R <sub>c</sub> max.	56				
	0.35	0.35	0.05	0.04	1.40	0.20	0.0030		R <sub>c</sub> min.	49			40
SK-15-C	0.28	0.15			1.00	0.35	0.0005	R <sub>c</sub> max.	56				
	0.34	0.35	0.05	0.04	1.30	0.55	0.0030		R <sub>c</sub> min.	48			

Other boron treated steels are available - please ask for details

## Lower Carbon Steels

A new range of boron treated steels is available with a lower nominal carbon content of 0.25%. After heat

treatment of the blade, this improves toughness levels, without significant loss of hardness.

Steel Spec.	C	Si	S	P	Mn	Cr	Mo	B	Jominy Hardenability (1/16")					
									J1	J8	J10	J14	J16	
SK1335K	0.23	0.15			1.10	0.30		0.0005	R <sub>c</sub> max.	52				36
	0.28	0.35	0.05	0.04	1.40	0.45		0.0030		R <sub>c</sub> min.	45	35		
SK1341K	0.25	0.15			1.10			0.0005	R <sub>c</sub> max.	53				40
	0.30	0.35	0.035	0.03	1.40	0.50		0.0030		R <sub>c</sub> min.	47	40		
SK1361K	0.25	0.15			1.00	0.40	0.13	0.0005	R <sub>c</sub> max.	53				48
	0.30	0.30	0.035	0.03	1.30	0.65	0.20	0.0030		R <sub>c</sub> min.	47		42	

The optimum application of our standard and lower carbon range of steels depends both on the section thickness and heat treatment, in particular the quench severity. Assuming that a moderate to severe water quench is used, the following general guidelines can be applied:

Steel Spec.	Suggested Thickness Application	
	mm	Inches
SK-15-A	<=25.4mm (except BV406x22mm)	t<=1"
SK-15-B / SK1335K	25.4mm<t<38mm (plus BV406x22mm)	1"<t<1 1/2"
SK-15-C / SK1341K	38mm<=t<=41mm	1 1/2"<=t<=1 5/8"
SK1361K	t>41mm	t>1 5/8"

## Steels for Arrowhead Flats

We recommend use of the following steel grades. They are suitable for "weld in" bucket edges as well as

bolt-on applications (appropriate weld procedure needed).

Section	Steel Spec.	C	Si	S	P	Mn	Cr	Mo	B	Jominy Hardenability (1/16")				
										J1	J8	J14	J16	J20
AH203 SK1336	SK1335K	0.23	0.15			1.10	0.30		0.0005	R <sub>c</sub> max.	52			36
		0.28	0.35	0.05	0.04	1.40	0.45		0.0030		R <sub>c</sub> min.	45	35	
AH255	41B18M	0.15	0.15			0.95	0.40	0.25	0.0005	R <sub>c</sub> max.	48			38
		0.21	0.35	0.04	0.035	1.30	0.65	0.35	0.0030		R <sub>c</sub> min.	40		30

## Steel Specification for manufacturing blades without heat treatment

A range of high carbon grades are offered to customers who want to manufacture blades without heat treatment. These steels can provide a cost effective solution in certain service environments, but they have lower levels of hardness and fracture toughness compared with the range of heat treatable boron steel grades.

These steels are available for section sizes up to 330mm x 35mm

Steel Spec.	C	Si	Mn	P	S
SAE1060	0.55 0.66	0.15 0.35	0.60 0.90	0.04	0.05
SAE1552	0.50 0.61	0.15 0.35	0.95 1.25	0.04	0.05
SAE1572	0.65 0.76	0.15 0.30	1.00 1.30	0.04	0.05
SAE1084	0.80 0.94	0.15 0.35	0.60 0.90	0.04	0.05