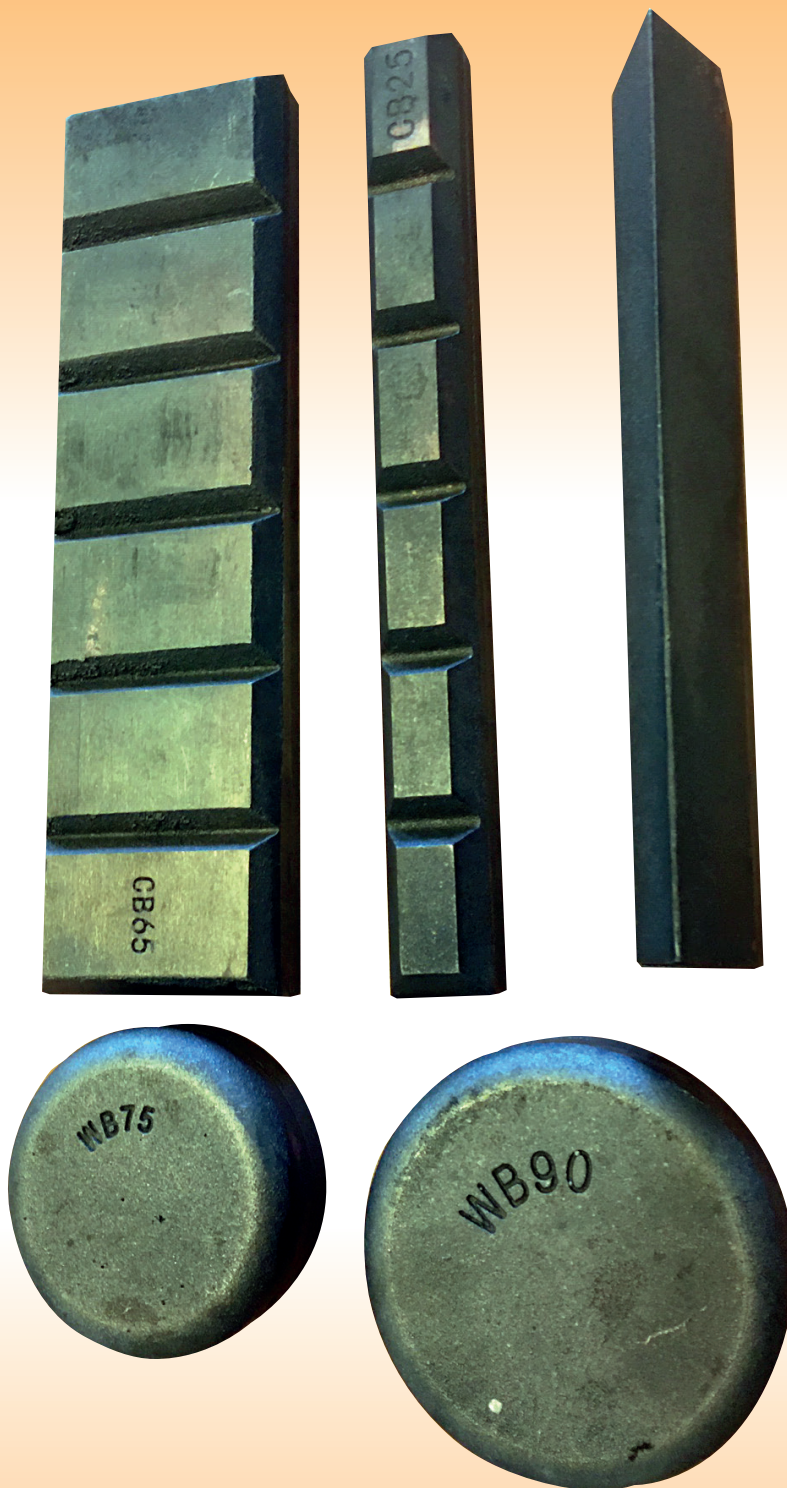


LAMINATED WHITE IRON



LAMINATED WHITE IRON

Laminated Wear Blocks are unique wear resistant materials that combine very high wear resistant (ASTM A532 15/3CrMo, 700BHN – 63HRc) and high impact toughness.

Easy to install due to the mild steel backing plate.

A. Chemical

C	Cr	Mn	Mo	Cu	P	Si	S	B、V、Nb
2.5-3.5	15-18	0.5-1.0	0.5-2.5	0.5-1.0	0.02max	0.5-1.0	0.02max	0.1-0.5



LAMINATED WHITE IRON

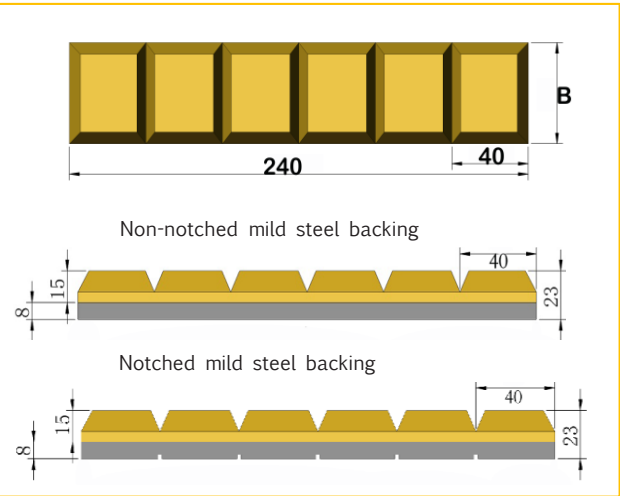
Chocky Bars



The unique, formable design of Wear chocky bars are available in various lengths, grades and sizes and can also be customized as per the clients specific need. Applications for Chocky Bars are wide and varied, ranging from specific wear protection on buckets for loaders, excavators and draglines machines, or for weld-on hammer tips for the re-cycling industry, or chute linings and rock box edges. They are easy to use and install. They can be bent, cut and formed to suit different surfaces.

The standard is 23mm thick, length is 240mm, width could be from 25mm from 150mm. We can also produce according to your special requests

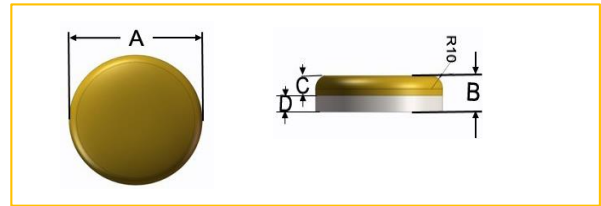
Item No.	Size (mm)	Dimension(mm)				N.W. (kg)
		A	B	C	D	
CB 25	240x25x23	240	25	15	23	0.9
CB 40	240x40x23	240	40	15	23	1.5
CB 50	240x50x23	240	50	15	23	1.9
CB 65	240x65x23	240	65	15	23	2.5
CB 80	240x80x23	240	80	15	23	3.2
CB 90	240x90x23	240	90	15	23	3.5
CB 100	240x100x23	240	100	15	23	3.9
CB 130	240x130x23	240	130	15	23	5.4
CB 150	240x150x23	240	150	15	23	6.0



Wear Buttons

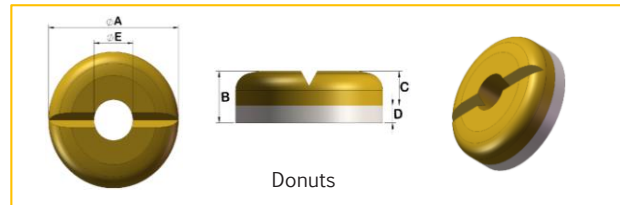
Ideal for smaller areas that are exposed to abrasion and impact.

Item No.	Size (mm)	Dimension(mm)				N.W. (kg)
		A	B	C	D	
WB 60	ø60x27	60	27	17	10	0.6
WB 75	ø75x27	75	27	17	10	0.9
WB 90	ø90x27	90	27	17	10	1.3
WB 110	ø110x32	110	32	20	12	2.3
WB 115	ø115x32	115	32	20	12	2.6
WB 150	ø150x41	150	41	25	16	5.7



Wear Donuts

Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
		A	B	C	D	E	
WD 75	ø75x25	75	25	17	8	25	0.7
WD 100A	ø100x25	100	25	17	8	50	1.0
WD 100B	ø100x32	100	32	24	8	70	1.0
WD 130	ø130x23	130	23	15	8	80	1.3
WD 148	ø148x35	148	35	25	10	108	2.2



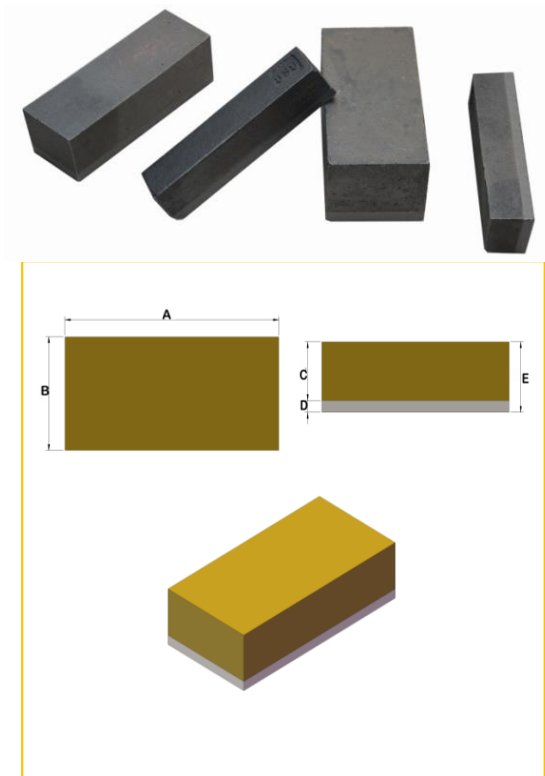
LAMINATED WHITE IRON

Standard Wear Bars

Wear bars are available in thickness from 25 to 100mm, and width from 25 to 300mm, and in different lengths.

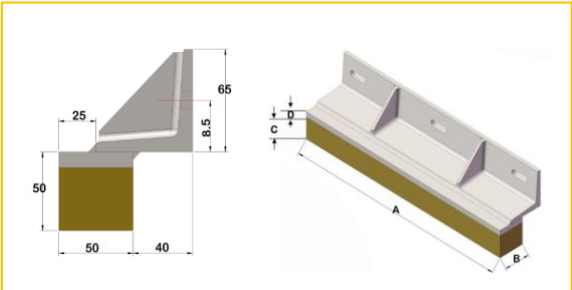
These bars offer superior wear life compared to conventional steel alloys such as manganese, Ni-hard and hardfacing wear plates.

Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
		A	B	C	D	E	
HSd 200A	200x25x25	200	25	15	10	25	1.0
HSd 200B	200x75x75	200	75	63	12	75	8.9
HSd 300A	300x25x25	300	25	15	10	25	1.5
HSd 153	153x38x33	153	38	25	8	33	1.5
HSd 300B	300x38x33	300	38	25	8	33	3.0
HSd 190A	190x50x30	190	50	20	10	30	2.2
HSd 115	115x50x50	115	50	38	12	50	2.3
HSd 127	127x50x50	127	50	38	12	50	2.4
HSd 150A	150x50x50	150	50	40	10	50	2.9
HSd 190B	190x50x50	190	50	40	10	50	3.7
HSd 210	210x50x50	210	50	38	12	50	4.1
HSd 230	230x50x50	230	50	38	12	50	4.5
HSd 294	294x50x50	294	50	40	10	50	5.8
HSd 300C	300x50x50	300	50	40	10	50	5.9
HSd 300D	300x150x60	300	150	48	12	60	21.1
HSd 432	432x50x50	432	50	38	12	50	8.5
HSd 450	450x38x31	450	38	25	6	31	4.2
HSd 600	600x50x50	600	50	38	12	50	11.8
HSd 150B	150x75x39	150	75	29	10	39	3.4
HSd 150C	150x75x50	150	75	40	10	50	4.4
HSd 150D	150x75x60	150	75	50	10	60	5.3



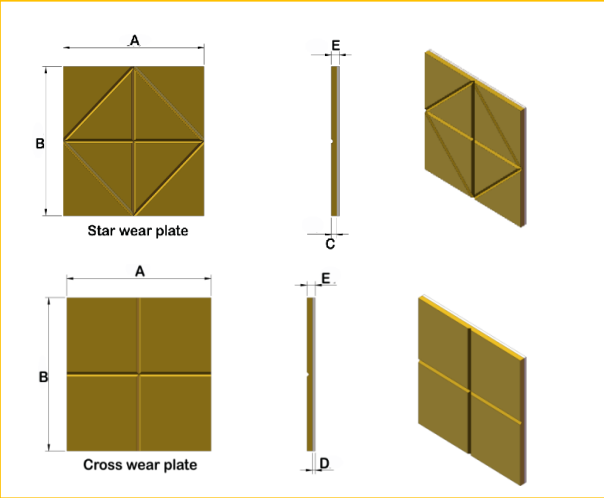
Microledges

Item No.	Size (mm)	Dimension(mm)				N.W. (kg)
		A	B	C	D	
HM 115	115x50	115	50	40	10	3.2
HM 127	127x50	127	50	38	12	3.6
HM 150	150x50	150	50	40	10	4.2
HM 190	190x50	190	50	38	12	5.5
HM 210	210x50	210	50	38	12	6.0
HM 230	230x50	230	50	38	12	6.6
HM 432	432x50	432	50	38	12	12.5

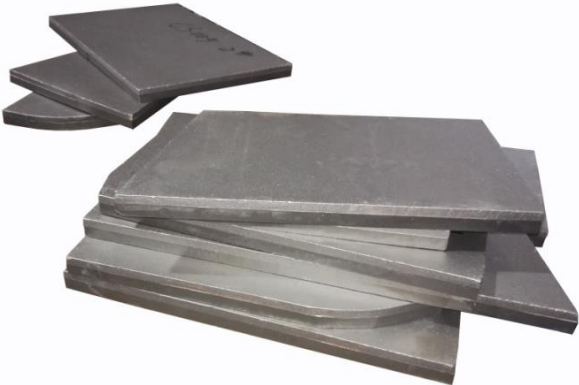


LAMINATED WHITE IRON

Notched Wear Plates - 3mm deep notch



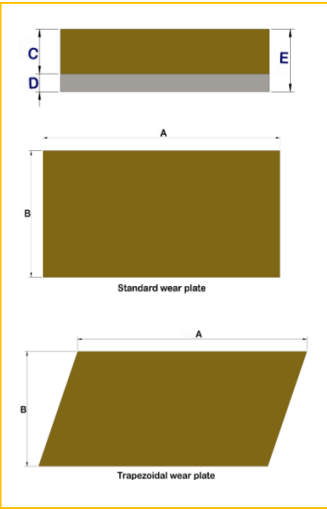
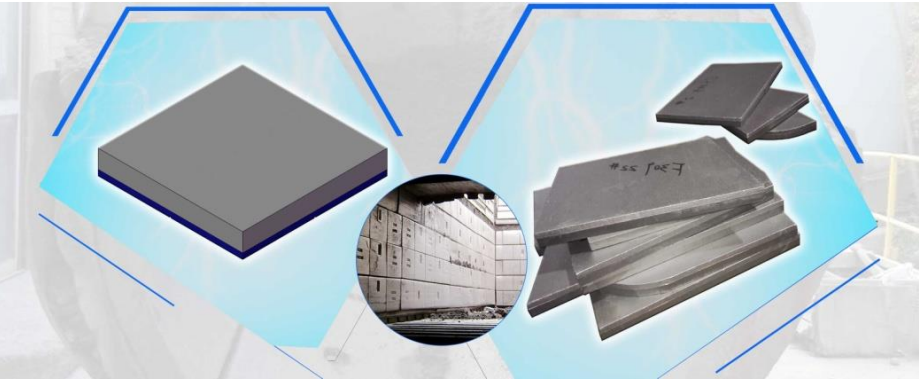
Typical application: Feeder chute and hopper wear protection



Type	Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
			A	B	C	D	E	
Star	WPs 400	400x400x23	400	400	15	8	23	28.7
	WPc 200	200x200x12	200	200	6	6	12	3.8
Cross	WPc 300	300x300x12	300	300	6	6	12	8.5

Wear Plates-Standard type/Trapezoidal type

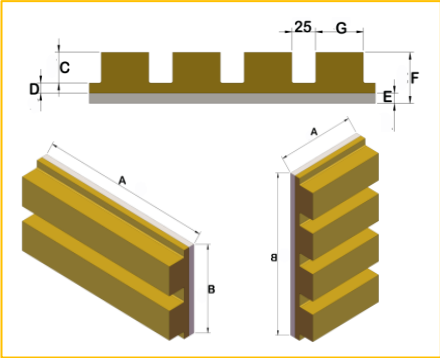
Type	Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
			A	B	C	D	E	
Standard		Minimum thickness 12mm (6mm white iron + 6mm mild steel base)						
		Maximum thickness 160mm						
Trapezoidal		Maximum dimension without splice L x W: 900x600mm						
		Washers, Nuts, Studs, Threads, Holes are available.						



LAMINATED WHITE IRON

Rockbox Liners

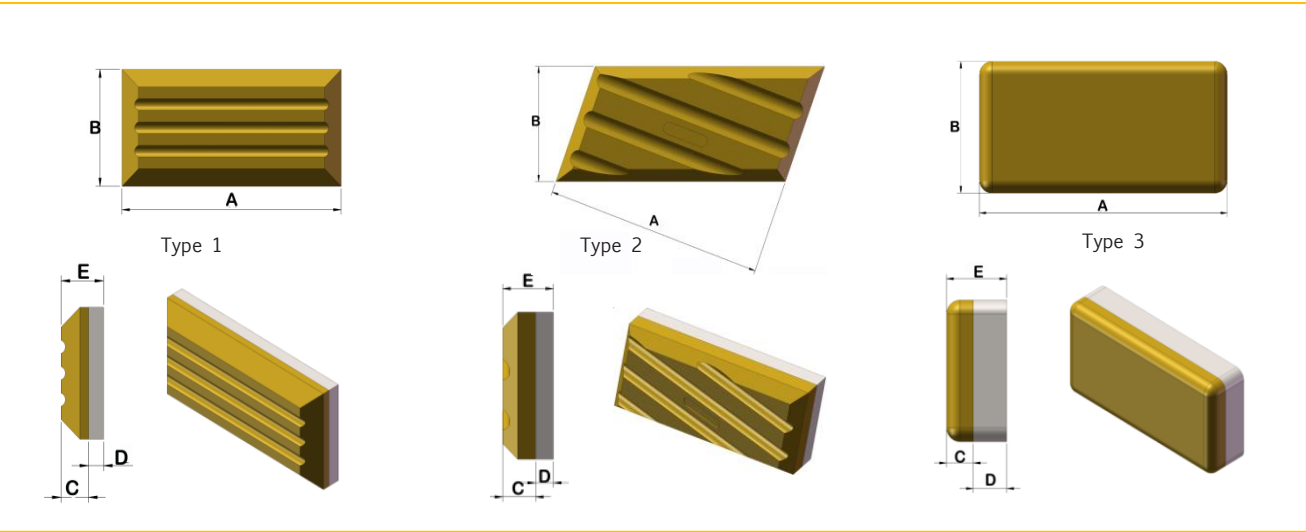
Item No.	Size (mm)	Dimension(mm)							N.W. (kg)
		A	B	C	D	E	F	G	
RL 300A	300x300x50	300	300	30	10	10	50	50	28.7
RL 300B	300x148x50	300	148	30	10	10	50	50	13.8
RL 148A	148x452x50	148	452	30	10	10	50	50	21.1
RL 148B	148x300x50	148	300	30	10	10	50	50	14.0



Skid Wear Bars

Bottom and Runner Protection for Shovels and Buckets.

Type	Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
			A	B	C	D	E	
1	SB1-214	214x101x34	214	101	22	12	34	5.1
	SB1-302	302x101x34	302	101	22	12	34	7.3
	SB1-154	154x101x34	154	101	22	12	34	3.7
	SB1-279	279x75x34	297	75	22	12	34	6.1
2	SB2-214L	214x101x34	214	101	22	12	34	5.9
	SB2-214R	214x101x34	214	101	22	12	34	5.9
	SB2-302L	302x101x34	302	101	22	12	34	8.4
	SB2-302R	302x101x34	302	101	22	12	34	8.4
	SB2-154L	154x101x34	154	101	22	12	34	4.2
	SB2-154R	154x101x34	154	101	22	12	34	4.2
3	SB3-250A	250x150x45	250	150	20	25	45	13.1
	SB3-200	200x150x45	200	150	20	25	45	10.5
	SB3-250B	250x250x45	250	250	20	25	45	21.9

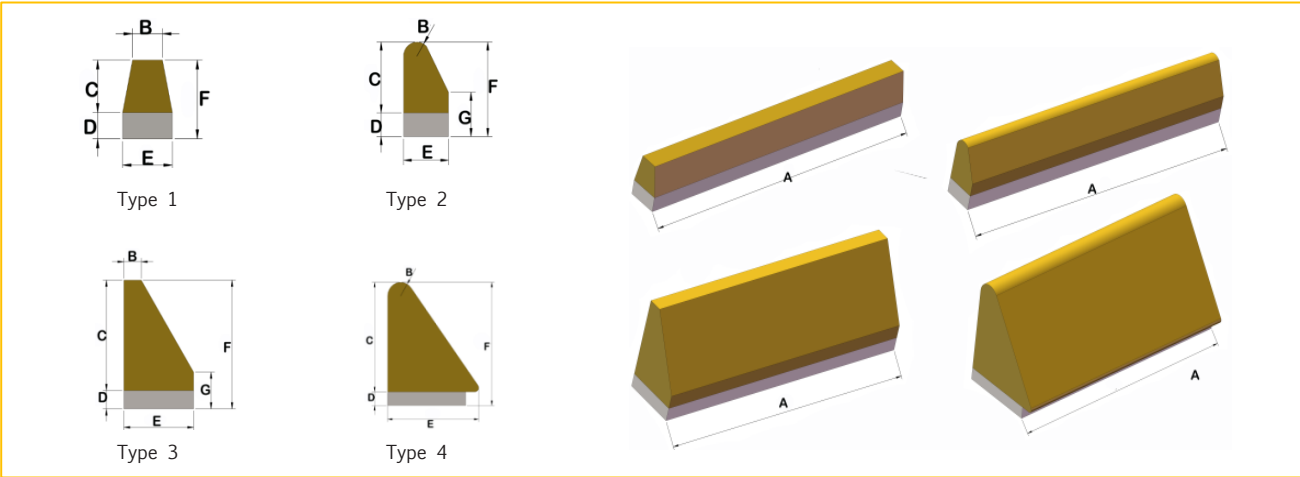


LAMINATED WHITE IRON

Shaped Wear Bars

Shaped wear bars to suit specific applications. Effectively used to bucket lips, loaders, crates etc.

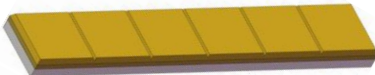
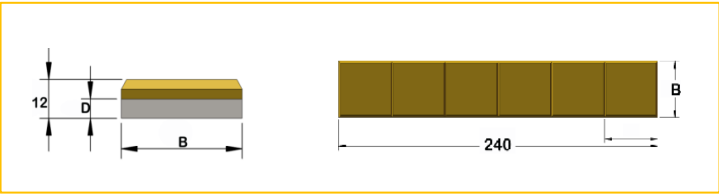
Type	Item No.	Size (mm)	Dimension(mm)							N.W. (kg)
			A	B	C	D	E	F	G	
1	SWB 200-1	200x13x30	200	13	20	10	20	30	-	0.8
	SWB 244-1	244x10x35	244	10	25	10	25	35	-	1.3
	SWB 202-1	202x10x35	202	10	25	10	25	35	-	1.1
2	SWB 275-2	275x5x29	275	5	21	8	16	29	16	0.9
3	SWB 200-3	200x25x59	200	3	47	12	25	59	-	1.5
	SWB 400-3	400x25x59	400	3	47	12	25	59	-	2.9
4	SWB 200-4	200x25x50	200	10	38	12	25	50	-	1.5
	SWB 400-4	400x25x50	400	10	38	12	25	50	-	2.9



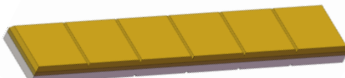
Wafer Strips

This model is easy to cut and shape. low weight and high hardness, ideal for bucket wear protection.

Item No.	Size (mm)	Dimension(mm)				N.W. (kg)
		A	B	C	D	
WS 25	240x25x12	240	25	6	6	0.6
WS 40	240x40x12	240	40	6	6	0.9
WS 50	240x50x12	240	50	6	6	1.2
WS 65	240x65x12	240	65	6	6	1.6



Non-notched mild steel backing



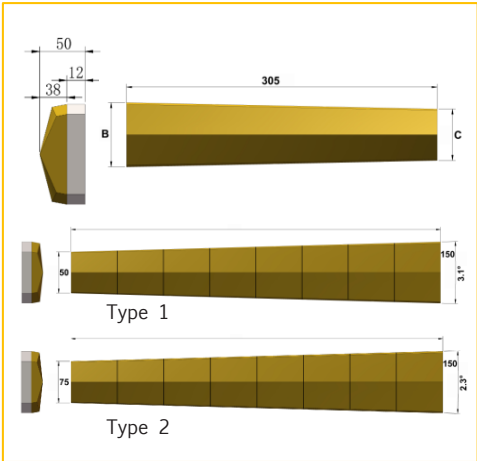
Notched mild steel backing



LAMINATED WHITE IRON

Grizzly Bars

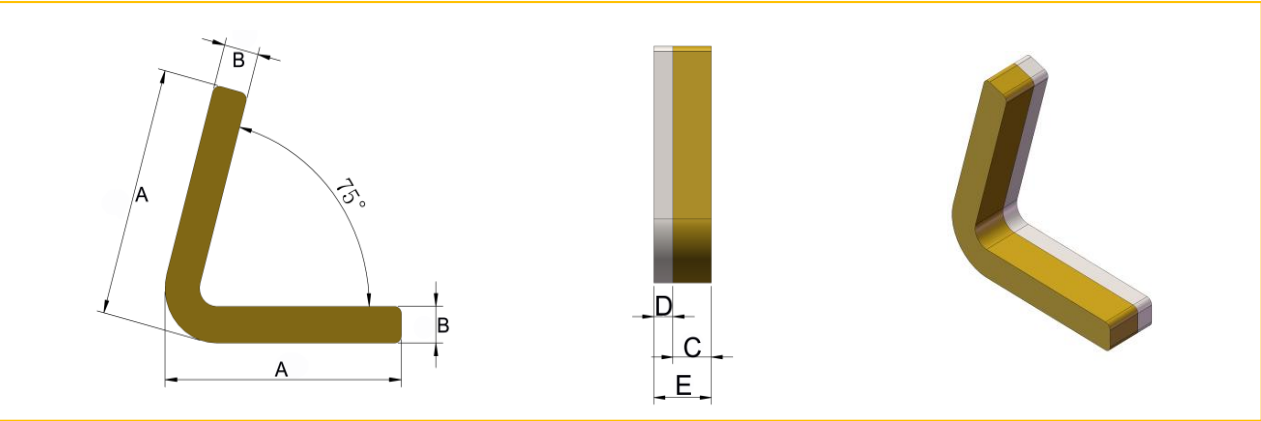
Type	Item No.	Size (mm)	Dimension(mm)			N.W. (kg)
			A	B	C	
1	GB1-105	150x137.5	305	150	137.5	13.6
	GB1-137.5	137.5x125	305	137.5	125	12.5
	GB1-125	125x112.5	305	125	112.5	11.2
	GB1-112.5	112.5x100	305	112.5	100	10.0
	GB1-100	100x87.5	305	100	87.5	8.8
	GB1-87.5	87.5x75	305	87.5	75	7.5
	GB1-75	75x62.5	305	75	62.5	6.3
	GB1-62.5	62.5x50	305	62.5	50	5.1
2	GB2-150	150x141	305	150	141	13.8
	GB2-141	141x131	305	141	131	12.9
	GB2-131	131x122	305	131	122	11.9
	GB2-122	122x113	305	122	113	11.1
	GB2-113	113x103	305	113	103	10.1
	GB2-103	103x94	305	103	94	9.2
	GB2-94	94x84	305	94	84	8.3
	GB2-84	84x75	305	84	75	7.4



Elbow Wear Bars

Ideal for buckets, rock boxes, truck bodies, chutes etc.

Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
		A	B	C	D	E	
HE 120	120x120x28	120	30	18	10	28	1.3
HE 180	180x180x32	180	40	22	10	32	3.0



LAMINATED WHITE IRON

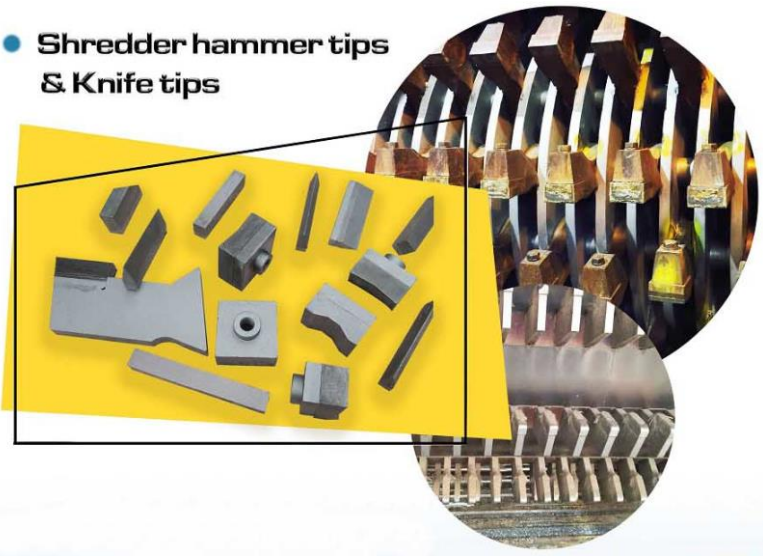
Shredder Hammer Tips

Bi-metallic hammers with 700BHN hardness and is available in various sizes and shapes, shredder hammer tips can be used in cement or coal industry to do crushing and shredding performance, it has excellent impact and abrasion resistance.

Application:

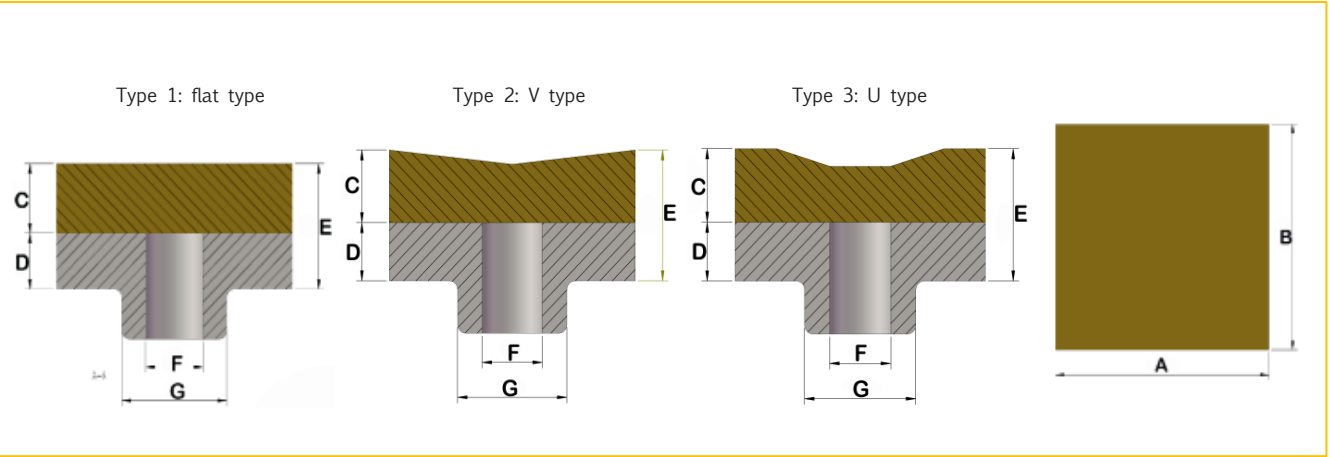
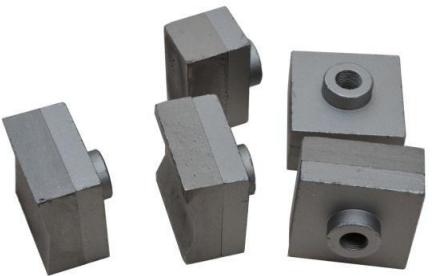
Mining & Mineral Processing Industry.
Coal, Cement & Steel Industry

Shredder hammer tips & Knife tips



Note:
The standard size of F is 7/8"-14UNF, please inform us when other thread dimension is required.

Type	Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
			A	B	C	D	E	
1	HC1 90-90	90x90x45	90	90	25	20	45	2.9
	HC1 90-50	90x50x45	90	50	25	20	45	1.6
	HC1 90-54	90x54x66	90	54	48	18	66	2.5
	HC1 50-50	50x50x38	50	50	20	18	38	0.7
	HC1 80-80	80x80x45	80	80	25	20	45	2.4
	HC1 100-100	100x100x45	100	100	25	20	45	3.6
	HC1 80-56	80x56x45	80	56	25	20	45	1.6
2	HC2 90-90	90x90x50	90	90	30	20	50	3.0
	HC2 80-56	80x56x50	80	56	30	20	50	1.8
3	HC3 90-90	90x90x50	90	90	30	20	50	3.0
	HC3 90-50	90x50x55	90	50	35	20	55	1.8
	HC3 90-56	90x56x55	90	56	35	20	55	1.9

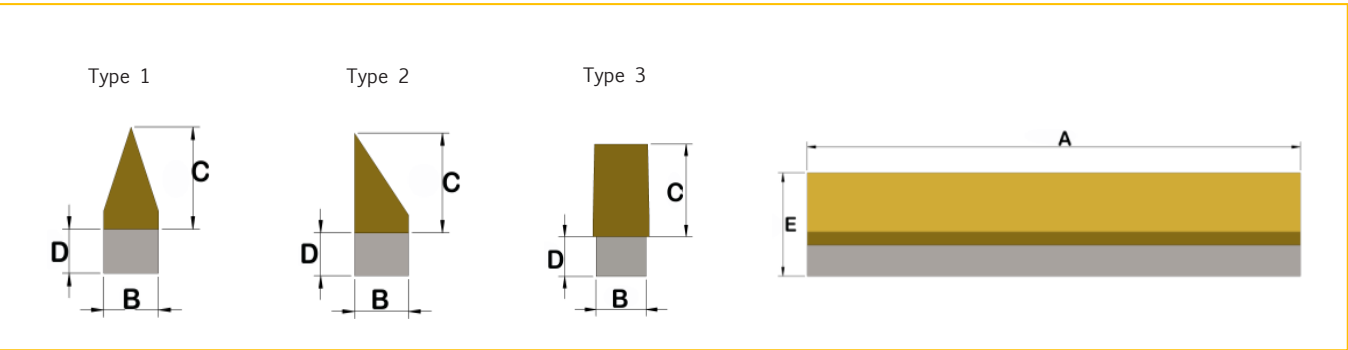


LAMINATED WHITE IRON

Knife Edges

Wear Knife are sharp blocks and cost-effective alternatives to welding.

Type	Item No.	Size (mm)	Dimension(mm)					N.W. (kg)
			A	B	C	D	E	
1	HK1 203-16	203x16x50	203	16	38	12	50	0.9
	HK1 203-19	203x19x50	203	19	38	12	50	1.1
	HK1 203-22	203x22x50	203	22	38	12	50	1.3
	HK1 203-25	203x25x50	203	25	38	12	50	1.5
	HK1 305-26	305x16x50	305	16	38	12	50	1.4
	HK1 305-19	305x19x50	305	19	38	12	50	1.6
	HK1 305-22	305x22x50	305	22	38	12	50	1.9
	HK1 305-25	305x25x50	305	25	38	12	50	2.2
2	HK2 203-16	203x16x50	203	16	38	12	50	1.0
	HK2 203-25	203x25x62	203	25	50	12	62	1.7
	HK2 305-25	305x25x56	305	25	40	16	56	2.5
3	HK3 203-19	203x19x50	203	19	38	12	50	1.6
	HK3 203-25	203x25x50	203	25	38	12	50	2.1
	HK3 203-28	203x28x50	203	28	38	12	50	2.3



LAMINATED WHITE IRON

CUTTING / FORMING / WELDING

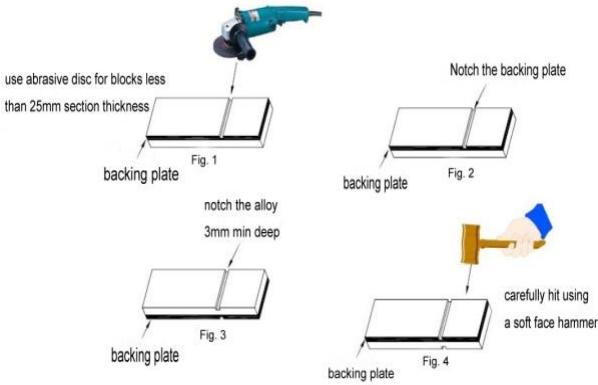
Recommended Cutting Instruction for Blocks

High pressure water jet cutting is preferred cutting method for wear blocks. Thermal cutting using an oxyacetylene torch, Arc-air or plasma is NOT recommended due to high localized heat penetration and high risk of cracking and delamination.

For Wear Blocks, 25 mm is recommended max cutting thickness by abrasive disc (Fig 1)

Caution: Extreme care must be taken when cutting to minimize lo pre-heating or cracks and delamination may occur.

- Wear Blocks thinner than 25mm can be cut by the following procedure:
- Secure the piece to be cut in a vice or clamp
 - Notch the backing plate as shown in Fig 2
 - Notch the white iron a minimum of 3mm deep opposite the notch in the backing plate, as pre Fig 3
 - Wrap the piece with a rag and carefully hit using a soft face hammer as shown in Fig4. The piece should break cleanly at the notch.



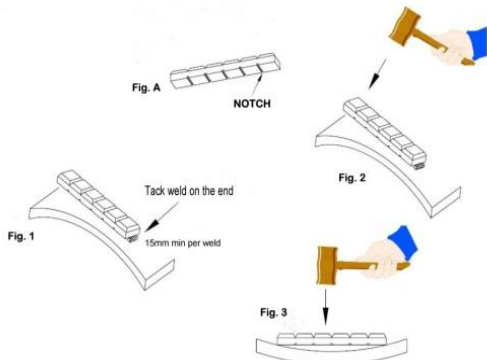
Recommended Forming Procedure for Wear Blocks

This practice is suitable for chocky bars only

For severe curves with radius of less than 305mm, or inside curves, it is advisable to notch the mild steel backing plate opposite the “V” to assist forming.

It is normal the chocky block may crack during bending.

- Clean the surface to which chocky block will be welded
- Tack weld one end of the chocky block (as per the welding procedure) by 15mm minimum length per weld.
 - Outside curves:
Hammer down the unwelded end with a soft faced hammer to bend bar to match mating radius.
 - Inside curves:
Starting in the centre strike bar with a soft face hammer to bend bar to match mating radius.
- Stitch weld as per the welding procedure.



Recommended Welding Procedure for Wear Blocks

Please Read All Procedures Completely

We recommend you always use a soft-face hammer and ANSI-approved (Z87.1) eye protection during cutting and bending procedures.

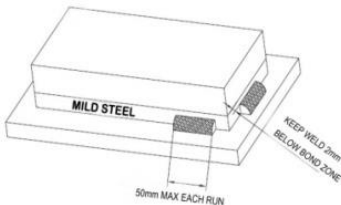
- Ensure that the surface to which the wear Blocks will be attached to is as flat as possible and the area to be welded is clean.
- Clamp and tack weld wear Blocks into position.
- Stick weld, laying 50mm max length on each run, alternating ends or sides to minimize heat penetration. Do NOT weld within 2mm from the joint between alloy and steel backing plate
- DO NOT WELD CONTINUOUSLY-Continuous welding may cause warpage, delaminating and cracking. Use thermal crayons to check temperature. Maximum allowed 200°C.
- If a complete peripheral weld is required, use stick weld method.
- WELDING RODS- we recommend low hydrogen welding rods or gas covered cored wire Gas shielded solid MIG wire - 1.2mm diameter max

- | | |
|------------------------|---|
| Flux cored wire | -1.6mm diameter max to ASTM/AWS A5.18 classification ER705-6 |
| Low hydrogen electrode | -3.25mm diameter max to ASTM/AWS A5.1 classification E7016-1H8 or E7018-1H4 |

WELDING PROCEDURE OVERVIEW

- Read procedures completely
- Tack weld into position
- Stick weld with max. length (50mm) each run
- Maintain 2mm gap between weld and joint line

****CAUTION: TOO MUCH HEAT PENETRATION MAY CAUSE CRACKING AND SEPARATION.****



VI FINDER DEN RIGTIGE LØSNING

NWT tilbyder et stort udvalg af slitageløsninger, som alle har til formål at øge levetiden på processen.

Slitage problemet består typisk af en kombination af flere forskellige faktorer, i form af temperatur, materiale, størrelse og hastighed.

NWT er derfor altid meget omhyggelig med, at undersøge de faktorer, der belaster den aktuelle applikation.

NWT sætter en stor ære i at udarbejde den præcise dokumentation i form af tegninger og beregninger, idet vores opgaver altid tager udgangspunkt i en kundetilpasset løsning.

NWT's salgsmedarbejdere har alle en håndværksmæssig baggrund, kombineret med en teknisk videregående uddannelse. Herved sikrer vi den tekniske forståelse allerede ved første besøg samt får afklaret forskellige muligheder.



Nørremarksvej 59 ■ 9270 Klarup ■ Tlf. 8282 0500 ■ info@nwtech.dk ■ www.nwtech.dk
Vi har eget værksted og lager på adressen i Klarup, lige udenfor Aalborg og tæt på motorvejen

Vi har mere end 40 års erfaring i branchen, og herved løsninger til næsten ethvert slitageproblem. Den rigtige løsning, giver typisk en stor besparelse og sikrer samtidig den planlagte drift mod utilsigtet stop.