

Hyster offer our clients a wide range of wear products and professional wear solutions. We also welcome custom made one off's and consumables.

Some of our products and services:

- Bimetallic wear plates
- Chocky bars and wear buttons
- White iron wear blocks, wear bars
- Bimetallic wear pipes/Liners
- Hardfacing wear parts
- Hi-chrome carbide wear parts
- Ni-Hard wear liners/billets
- Shredder hammer tips/Knife edges
- Professional wear solutions
- Full Fabrication services
- Fast service and timely delivery









Laminated Wear Blocks are unique wear resistant materials in that they combine very high wear resistant qualities of a white iron(ASTM A532 15/3CrMo, 700BHN – 63HRc) with a weldable & high impact toughness mild steel through a metallurgical bond to create a product that is exceptionally resistant to impact and abrasion while retaining.

A. Chemical

С	Cr	Mn	Мо	Cu	Р	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

B. Mechanical Property:

1) Tensile Strength	630Mpa Min
2) Shearing Strength	250Mpa Min.
3) <u>Hardness</u>	63 HRC

C. Micro-structure



D. Application---the ideal working temperature for HYSTER bars should not exceed 400°C.

Wear Pads Jaw Crushers Chute Linings Ore Chutes Crusher Chutes Tripper Chutes Flop Gates Bucket Liners

Lip Protectors Screen Plates Bucket Liners Floor Liners Loaders Wear Aprons Knife Inserts Crusher Bars Dump Hoppers Crusher Hoppers Vibratory Feeders Rock Box Edges Surge Bin Liners Rock Box Liners Skip Liners Draglines Concentration Bins Buckets Transition Pieces Coal Transfer Chutes Apron Feeder Liners Loading Pocket Liners Hammer Mill Inserts Rolling Mill Guides Hopper Edges Shovels Arm & Hub Liners Bolt Protectors Truck Bed Liners Impact Wall Liners Bucket Wheel Protection Conveyor Transfer Points





Chocky Bars



The unique, formable design of Hyster-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

ltem	Size		Dimensior	n(mm)		N.W.
No.	(mm)	А	В	С	D	(kg)
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 require materials resistant to abrasion and impact.

ltom No	Size		Dimensio	on(mm)		N.W.
item no.	(mm)	А	В	С	D	(kg)
WB 60	ø60x27	60	27	17	10	0.7
WB 75	ø75x27	75	27	17	10	0.8
WB 90	ø90x27	90	27	17	10	1.4
WB 110	ø110x32	110	32	20	12	2.1
WB 115	ø115x32	115	32	20	12	2.5
WB 150	ø150x41	150	41	25	16	5.7

Wear Donuts

ltem No	Size		Dir	nension(mm)		N.W.
item No.	(mm)	А	В	С	D	E	(kg)
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



Dome type Flat type



YSTER WEAR PARTS



Standard Wear Bars

Hyster 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.

la en Ale	Size		Dimer	nsion(mr	n)		N.W.
item No.	(mm)	А	В	С	D	E	(kg)
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

la sus Alla	Size		Dimensio	on(mm)		N.W.
item No.	(mm)	А	В	С	D	(kg)
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

-Better wear resistance performance -Durable -Fine polish -Cost effective -Excellent quality

Note: Studs Extra If arc studs are required, please stipulate the size and position required.









Notched Wear Plates - 3mm deep notch



Turne	Itom No	Size		Dimen	sion(mm)			N.W.
туре	item no.	(mm)	А	В	С	D	E	(kg)
Star	WPs 400	400x400x23	400	400	15	8	23	28.7
Guara	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

T	la Al	Size		Dime	nsion(mm))		N.W.
туре	item No.	(mm)	А	В	С	D	E	(kg)
Standard	Minimum thi (6mm white	ckness 12mm iron + 6mm mild	l steel b	ase)				
	Maximum th	ickness 160mm						
Trapezoidal	Maximum di	mension without :	splice L	x W: 900>	(600mm			
	Washers, Nu	ıts, Studs, Thread	ls, Holes	s are avail	able.			



Typical application: Feeder chute and hopper wear protection



Note: Studs Extra If arc studs are required, please stipulate the size and position required.

Washers, Nuts, Studs, Threads, Holes are available.









Rockbox Liners

ltom No	Size			Dimer	nsion(mn	ר)			N.W.
item No.	(mm)	А	В	С	D	E	F	G	(kg)
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. The Skid Bar is available in various lengths, widths and sizes, wherein the surface of the bar is smoothly shaped.

HYSTER WEAR PARTS

T	la sur Ma	Size		Dim	nension(mm))		N.W.
Туре	item No.	(mm)	А	В	С	D	E	(kg)
	SB1-214	214x101x34	214	101	22	12	34	5.1
1	SB1-302	302x101x34	302	101	22	12	34	7.3
1	SB1-154	154x101x34	154	101	22	12	34	3.7
	SB1-279	279x75x34	297	75	22	12	34	6.1
	SB2-214L	214x101x34	214	101	22	12	34	5.9
	SB2-214R	214x101x34	214	101	22	12	34	5.9
n	SB2-302L	302x101x34	302	101	22	12	34	8.4
2	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
	SB3-250A	250x150x45	250	150	20	25	45	13.1
3	SB3-200	200x150x45	200	150	20	25	45	10.5
	SB3-250B	250x250x45	250	250	20	25	45	21.9









Shaped Wear Bars

Shaped wear bars are wear bars in different shapes to suit specific applications. They are effectively used to prevent gouge wear that normally occurs in such place as bucket lips, loaders, crates etc.

Turne	ltom No	Size	Dimension(mm)							
туре	item No.	(mm)	А	В	С	D	E	F	G	(kg)
	SWB 200-1	200x13x30	200	13	20	10	20	30	-	0.8
1	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
2	SWB 200-3	200x25x59	200	3	47	12	25	59	-	1.5
З	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
4	SWB 400-4	400x25x50	400	10	38	12	25	50	-	2.9



Wafer Strips

This model is easy to cut and shape on spoked surfaces. It also has low weight and high hardness, ideal for bucket wear protection.



ltem	Size		N.W.			
No.	(mm)	А	В	С	D	(kg)
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
						B
	B	-		240	-	

Non-notched mild steel backing

Notched mild steel backing



L



Grizzly Bars

Type Item No		Size	Di	N.W.		
туре	item No.	(mm)	А	В	С	(kg)
	GB1-105	150x137.5	305	150	137.5	13.6
1	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
G	GB1-62.5	62.5x50	305	62.5	50	5.1
	GB2-150	150x141	305	150	141	13.8
	GB2-141	141x131	305	141	131	12.9
	GB2-131	131x122	305	131	122	11.9
2	GB2-122	122x113	305	122	113	11.1
2	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

Apply to special shape wear-resisting layer to stand up to the toughest impact and wear abrasion.

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

laure bla	Size		N.W. (kg) 1.3				
item No.	(mm)	А	В	С	D	E	(kg)
HE 120	120x120x28	120	30	18	10	28	1.3
HE 180	180x180x32	180	40	22	10	32	3.0







Shredder Hammer Tips

These are bi-metallic composites having 700BHN hardness and available in various sizes and shapes, shredder hammer tips can be used in sugar or coal industry to do crushing and shredding performance, it has excellent impact and abrasion resistance properties & enhanced service life.

Hyster can also produce Tungsten Carbide + While Iron + Carbon Steel hammer tips!

Size

(mm)

90x90x45

90x50x45

90x54x66

50x50x38

80x80x45

64x64x40

80x56x45

90x90x50

80x56x50

90x90x50

90x50x55

90x56x55

100x100x45

These hammers find application in

Item No.

HC1 90-90

HC1 90-50

HC1 90-54

HC1 50-50

HC1 80-80

HC1 64-64

HC1 80-56

HC2 90-90

HC2 80-56

HC3 90-90

HC3 90-50

HC3 90-56

HC1 100-100

- i) Sugar Industry
- ii) Mining & Mineral Processing Industry.

Туре

1

2

3

iii) Cement & Steel Industry

Note:

А

90

90

90

50

80

100

64

80

90

80

90

90

90

В

90

50

54

50

80

100

64

56

90

56

90

50

56

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

Dimension(mm)

D

20

20

18

18

20

20

20

20

20

20

20

20

20

С

25

25

48

20

25

25

20

25

30

30

30

35

35

N.W.

(kg)

2.9

1.6

2.5

0.7

2.4

3.6

12

1.6

3.0

1.8

3.0

1.8

19

Е

45

45

66

38

45

45

40

45

50

50

50

55

55



LAMINATED WHITE IRON

Knife Edges

Type Item N	ltem No	Size			N.W.			
туре	item no.	(mm)	А	В	С	D	E	(kg)
	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	HK1 203-22	203x22x50	203	22	38	12	50	1.3
1	HK1 203-25	203x25x50	203	25	38	12	50	1.5
1	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
	HK2 203-16	203x16x50	203	16	38	12	50	1.0
2	HK2 203-25	203x25x62	203	25	50	12	62	1.7
	HK2 305-25	305x25x56	305	25	40	16	56	2.5
	HK3 203-19	203x19x50	203	19	38	12	50	1.6
3	HK3 203-25	203x25x50	203	25	38	12	50	2.1
	HK3 203-28	203x28x50	203	28	38	12	50	2.3







BIMETALLIC WHITE IRON PIPES

Bimetallic Chrome White Iron Wear Pipes

Hyster bimetallic chrome white iron wear pipe is produced by adopting the advanced compound casting technology. Outside material is mild steel or equivalent material, inside material is high wear resistance chrome white iron.

We could make the pipes to straight ones, elbow ones, three direct link ones or other shaped ones.

This kind of bimetallic chrome white iron wear pipe is a very good choice for Mining, Quarry, Crushing and Dredging industries. Typically, if the application involves transporting an abrasive media, using chrome white iron significantly extends the life of the pipe, reducing downtime in the process and resulting in substantial cost savings. For example, wear life can be increased in some instances by a factor of three at least when using high chrome white iron instead of overlay plate.

Main features:

--Comprehensive performance is good

Chrome white iron itself has very good wear resistance performance, while it is very fragile and is not impact resistance. We solved the defectiveness by compound this material with mild steel base, which has good impact toughness, also weldable and easy machined.

--High wear resistance

The inside material of the pipe is chrome white iron, its macro-hardness is above HRC55, its structure contains a lot of M7C3 type hard carbide, micro-hardness is above 1500-1800HV, then ensures a very high wear resistance.

--Corrosion resistance

There are lots of Cr element distributed in chrome white iron, that increased the material's high-temperature oxidation resistance and the electrode potential, then has a good corrosion resistance for acid and alkali media.

--Reasonable structure, wholly compounded

The pipe is casted as a whole, and it is directly compounded with base material during the process of casting. The inner surface is very smooth, then reduced the resistance in the process of the material transfer, the media is not easy to stickon.

--Easy to transport, install

We could use flange, or simply weld together, to ensure the installation could bear a certain of hit, impact, and also do not need special packing materials during the delivery.



Туре	Diameter (mm)	Chrome white iron thickness (mm)	Compound length (mm)
		20~30	1000
Straight pipe	<2000	30~35	1500
		>35	2000
Elbow pipe	<2000	>20	-
Three direct link pipe	>500	>25	-



1.

2. 3.

4.

NI-HARD LINERS & BILLETS

NI-HARD PRODUCTS

NiHard is a well-established white iron product alloyed with nickel and chromium to give significant abrasion and impact resistant properties. The structure of NiHard is composed of iron and chromium carbides, fixed in a matrix rendered martensitic by the nickel content. This structure allows NiHard to be utilised in abrasive and high impact conditions found throughout the construction, mining, manufacturing and mineral processing industries.

Our NiHard products include billets and liner plates that can be made to the customers' specification or supplied from our range of stock sizes. Our NiHard products can be custom designed to meet any situation regardless of any size and shape concerns. We can also supply cut and shaped liners to be strategically placed on fixed plant equipment so that a unique wear package can be created, maximising wear life. This makes NiHard the perfect material for chutes, drop boxes, bin and hopper liners.

We primarily supplies cast billet and liner plates produced to the NiHard 4 specifications. However, we can produce billets and liner plates from the following alloys on special request:

> NiHard 1 & 2

> 27 Chrome Alloy

> 15/3 White Iron

Note: Other sizes can be made on request.



Liners can be cut to size on request. Bolts/Nuts/Washers are available on request.

Holes are to suit M20 fishtail bolt

have Ma	T	Size		Dimension(mm)							
item No.	туре	(mm)	А	В	С	D	E	F	G	(kg)	
NW 2001	1	300x300x20	300	300	20	74	152	74	152	13.8	
NW 2002	2	300x300x20	300	300	20	74	152	74	152	12.8	
NW 2003	1	300x200x20	300	200	20	74	152	100	-	9.2	
NW 2004	1	300x150x20	300	150	20	74	152	75	-	6.9	
NW 2005	1	300x100x20	300	100	20	74	152	50	-	4.5	
NW 2006	1	200x100x20	200	100	20	62.5	75	50	-	3.0	
NW 3201	1	300x150x32	300	150	32	74	152	74	-	11.0	
NW 3202	1	300x200x32	300	200	32	74	152	100	-	14.8	
NW 3203	1	300x300x32	300	300	32	74	152	74	152	22.0	
NW 3204	2	300x300x32	300	300	32	74	152	74	152	19.6	
NW 3205	1	300x100x32	300	100	32	74	152	50	-	7.2	
NW 3206	1	200x100x32	200	100	32	62.5	75	50	-	4.7	





NI-HARD LINERS & BILLETS

NIHARD WEAR BILLETS

Note: 1. (2. [3.]

- : Other sizes can be made on request. Liners can be cut to size on request. Bolts/Nuts/Washers are available on request.



Itom No.	Turne	Size Dimension(mm)							ABCDEFG12875503068ADOADO50210755030150ADOADOADO505050160ADOADO5050100100186186ADO40ADO40ADO40	N.W.	
item no.	туре	(mm)	А	В	С	D	E	F	G	110100	(kg)
NB 128	1	128x75x50	128	75	50	30	68	-	-	M20	3.3
NB 210	1	210x75x50	210	75	50	30	150	-	-	fishtail	5.7
NB 432	1	432x75x50	432	75	50	30	186	186	-	Doll	12.0
NB 302	2	302x100x100	302	100	100	75	152	-	-	M22 fichtail	22.0
NB 454	2	454x100x100	454	100	100	75	304	-	-	bolt	33.8
NB 224	3	224x150x100	224	150	100	74	76	-	-	M20 hex	24.5
NB 300	3	300x150x100	300	150	100	74	152	-	-	head bolt	33.4
NB 305	4	305x76x76	305	76	76	76.5	152	-	-	M20	12.5
NB 457	4	457x76x76	457	76	76	76.5	152	152	-	head bolt	18.8











Type 2







SECTION A-A



С

Φ22

26

Type 4

12



OVERLAY WEAR PLATES

Chromium Carbide Overlay Wear Plates

OVERLAY-PLATE is welded by chromium carbide overlay on a mild steel backing plate. Manufactured by our own design's welding machine with exclusive technique.

OVERLAY-PLATE has excellent performance in abrasion resistant.

- CHEMICAL COMPOSITION C 4.0%~5.5% Cr 21%~27%
- BACKING PLATE Standard: SS400 mild steel or equivalent Stainless or others upon request
- HARDNESS AVAILABLE 58-62HRC AND 62-65HRC
- TOLERANCES ± 1mm

HEAT RESISTANCE Maximum: 400°C

MICROSTRUCTURE Mixture of high volume hexgonal shaped chromium carbide in tough austenitic and martensitic. Average VFC above 30%.

PENETRATION TO THE BASE METAL 1.5mm

Cold Forming	Minimum Radius:	150mm(for 6+4)) Suggested:	using hy	ydrolic press to	o bend	plate
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CUTTING Plasma(from backing plate side) / Laser Cutting / Water Jet Knife

- APPLICATIONS -Ash liners -Elbow -Sinner plant -Bucket & Lips -Drag liners -Duct
- -Classifier -Mine car liners -Cyclones -Ore chutes -Discharge funnels -Slag chutes

-Extension ring -Cement kilns -Grizzly bars -Sinter breaker bar -Conveyor casings -Green Walt crushers -Steel plant -Blast furnace bell & burden -Chute & Hopper liners -Fan blades & Housings -Dredge pump side plates -Vibrator pan feeder liner

Standard Overlays	Weight sq/m(kg)	Standard Sheet Size(mm)	Overall Thickness
4 ON 4	62	1500x3000 / 1200x2400 / 1480x3050	8
4 ON 6	77	1500x3000 / 1200x2400 / 1480x3050	10
6 ON 6	92	1500x3000 / 1200x2400 / 1480x3050	12
5 ON 8	100	1500x3000 / 1200x2400 / 1480x3050	13
6 ON 8	108	1500x3000 / 1200x2400 / 1480x3050	14
5 ON 10	116	1500x3000 / 1200x2400 / 1480x3050	15
9 ON 10	146	1500x3000 / 1200x2400 / 1480x3050	19
10 ON 10	157	1500x3000 / 1200x2400 / 1480x3050	20
12 ON 12	162	1500x3000 / 1200x2400 / 1480x3050	24
17 ON 12	222	1500x3000 / 1200x2400 / 1480x3050	29







Hard Surfacing

Hyster developed HS 63HRC is mixed with alloy powder with a high density of primary chromium carbides in an iron matrix and non-metallic powders. It is the best cost-effective choice for high wear application compared to Tungsten carbide. Abrasion resistance is very high, with moderate impact resistance, hardness could achieve to 63-65HRC.

Product Details

Hardness HRC	1	2	3	4	5	6	Average
Position 1	60.5	61	61.5	62.5	62	60	61.25
Position 2	64	62	63.5	64	63	63.5	63.33
Position 3	65	64	64.5	63.5	65	64	64.17



Typical Applications

- Grouser bar hard surfacing
- Bucket teeth hard surfacing
- Heel shroud hard surfacing
- Shredder hammer hard surfacing
- Wear plate hard surfacing
- Crusher blade hard surfacing
- Dredger hard surfacing
- Break shovel hard surfacing
- Cutter tip hard surfacing







FAQ. What is the longest service life that products with HS 63 hard surfacing?

A This is a hard question to answer because there are so many variables, especially in hardfacing cutting edges, blades and parts exposed to wear from abrasion, impact, erosion, etc. Generally, an increase in wear life of 4 to 5 times can be expected for parts that are not hardfaced. Wear parts that are currently being hardfaced can expect a 2 to 4 times improvement in wear life.

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CUTTING / FORMING / WELDING

Recommended Cutting Instruction for Hyster-Wear Blocks

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

For Hyster Wear Blocks <u>no greater than 25mm</u> section thickness, cutting by abrasive disc is an accepted practice (Fig 1)

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

Alternatively, Hyster-Wear Blocks <u>smaller than 25mm</u> section thickness can be cut following the following procedure:

- · Secure the piece to be cut in a vice or clamp
- \cdot Notch the backing plate an shown in Fig 2
- $\cdot\,$ Notch the white iron a minimum of 3mm deep opposite the notch in the backing plate, as pre Fig 3

 \cdot 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 Hyster-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.

1. 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.
a. Outside curves:

Hammer down the unwelded end with a soft faced hammer to bend bar to match mating radius.

b. Inside curves:

Starting in the centre strike bar with a soft face hammer to bend bar to match mating radius.

3. Stitch weld as per the welding procedure.

Recommended Welding Procedure for Hyster-Wear Blocks

Please Read All Procedures Completely

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

1. Ensure that the surface to which the Hyster-wear Blocks will be attached to is as flat as possible and the area to be welded is clean.

2. Clamp and tack weld Hyster-wear Blocks into position.

3. Stitch weld, laying 50mm max length on each run, alternating ends or sides to minimize heat penetration. Do NOT deposit weld within 2mm from the joint between alloy and steel backing plate

4. <u>DO NOT WELD CONTINUOUSLY</u>-Continuous welding may cause warpage, delaminating and cracking. Use thermal crayons to check temperature. Maximum allowed 200°C.

5. If a complete peripheral weld is required, use stitch weld method.

Low hydrogen electrode

6. <u>WELDING RODS</u>- Hyster recommends low hydrogen weld 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 -3.25mm diameter max to ASTM/AWS A5.1 classification E7016-1H8 or E7018-1H4

WELDING PROCEDURE OVERVIEW

- 1. Read procedures completely
- 2. Tack weld into position

3. Stitch weld with max. length (50mm) each run

4. Maintain 2mm gap between weld and joint line

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











WORKSHOP & LABORATORY

Factory Show

-Simple introduction

Hunan Hyster Material Technology Co., LTD., is a wear materials expert with at least 20 years experience in China. We own two factories, one is in Changsha city, Hunan province, with about 4000 sq. m. production area, and 36 working staffs, main duty is doing Research, Test, Machining, Weld, Heat treatment, Packing. Another factory is in Zhuzhou city, also in Hunan province, with about 4500 sq. m. production area, and 45 working staffs, its main duty is making all kind of wear castings.



-Lab & Devices



HYSTER people welcome you visit our factory!



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