

# MINING CATALOGUE



**Brandt**

**Futura**  
MINING





## Product overview



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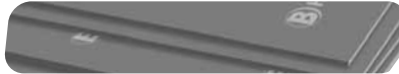
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**Teeth:** FUTURA TWISTER teeth fit on your current SuperV® adapters ✓



**Adapters and Weld-on Noses:** FUTURA TWISTER adapters are suitable to be used with Esco SuperV® teeth ✓



**FUTURA TWISTER** adapters, noses, tooth and pins are fully compatible with other HELIX style products in the market ✓

## UP TO 400 TONS MACHINES

Key to part numbers

<b>F</b>	<b>T</b>	<b>610</b>	<b>V</b>	<b>T</b>	<b>L</b>
Brand	Type	Size	Version	Vector	Long

### Guide to part sizes by Maximum Machine Weight (tons)

	610	690	710	810
Standard	144,1	248,4	345,1	
HD	103,7	136,4	211,3	
ST/HD	119,9	188,0	270,5	402,2
Extra HD	88,8	129,9	188,0	275,2
ST/HD	110,0	161,1	218,5	334,5
Extra HD	82,9	120,4	161,1	231,9

## Futura TWISTER are compatible with Esco SuperV® products

TWISTER is a **complete system** featuring teeth, adapters and pins ✓

**Variety of designs** to suit common & heavy duty excavator or loader applications ✓

### TWISTER TEETH

**S**



Kg	Lb	Part#	Cross Ref	Size
31,5	69	<b>FT610 S</b>	V61SYL	<b>610</b>
40,7	90	<b>FT690 S</b>	V69SYL	<b>690</b>

**RPHD**



Kg	Lb	Part#	Cross Ref	Size
46,6	103	<b>FT610 RPHD</b>	V61ARL	<b>610</b>
89,2	196	<b>FT710 RPHD</b>	V71ARL	<b>710</b>

**WTL**



Kg	Lb	Part#	Cross Ref	Size
34,7	76	<b>FT610 WTL</b>	V61TVP	<b>610</b>

**VTL**

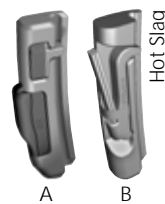


Kg	Lb	Part#	Cross Ref	Size
27,8	61	<b>FT610 VTL</b>	V61VX SD12 PE	<b>610</b>
40,3	89	<b>FT690 VTL</b>	V69VX	<b>690</b>
50,7	112	<b>FT710 VTL</b>	V71VX	<b>710</b>
80,0	176	<b>FT810 VTL</b>	V81VX	<b>810</b>

### PN TWISTER PIN

**HPN**

Pins could be re-used several times ✓  
Fully compatible with other products ✓



Kg	Lb	Part#	Cross Ref	F	Size
0,47	1,0	<b>FT610 PN</b>	V61PN	A	<b>610</b>
0,50	1,1	<b>FT610 HPN</b>	V61HPN	B	
0,76	1,7	<b>FT690 PN</b>	V69PN	A	<b>690</b>
0,85	1,9	<b>FT6971 HPN</b>	V69HPNA	B	<b>690</b> <b>710</b>
0,81	1,8	<b>FT710 PN</b>	V71PN	A	<b>710</b>
1,21	2,7	<b>FT810 PN</b>	V81PN	A	<b>810</b>

**RC**



Kg	Lb	Part#	Cross Ref	Size
32,5	72	<b>FT610 RC</b>	V61SD, V61SDX, SD12 PR	<b>610</b>
46,5	102	<b>FT690 RC</b>	V69SD	<b>690</b>
56,4	124	<b>FT710 RC</b>	V71SD	<b>710</b>
90,3	199	<b>FT810 RC</b>	V81SD	<b>810</b>

### EXTFT EXTRACTION TOOL



**EXTFT-3961**  
Size 610

**EXTFT-6981**  
Sizes 690 to 810

**I**



Kg	Lb	Part#	Cross Ref	Size
28,1	62	<b>FT610 I</b>	V61RY	<b>610</b>
44,1	97	<b>FT690 I</b>	V69RYL	<b>690</b>
54,2	119	<b>FT710 I</b>	V71RXL, V71RYL	<b>710</b>
87,0	191	<b>FT810 I</b>	V81RXL, V81RYL	<b>810</b>

TWISTER NOSES, ADAPTERS, WEAR CAPS AND CORNERS

WN

TWISTER WELD-ON NOSE



Convert any adapter into the FUTURA TWISTER system ✓

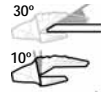
Kg	Lb	Part#	Cross Ref	Size
23,5	51,7	FT610 WN	WN-V61	610
33,8	74,4	FT690 WN	WN-V69	690
47,5	104,5	FT710 WN	WN-V71	710
84,2	185,2	FT810 WN	WN-V81	810

LD

Loader Adapter



Kg	Lb	Part#	Cross Ref	Size
120	264	FT710 LD	5896-V71	
122	268	FT710 LDLH	5894L-V71	710
122	268	FT710 LDRH	5894R-V71	



WC

UNIVERSAL WEAR CAPS

Futura Wear Caps add extra wear resistance to any FUTURA adapter. Versatile protection.

Kg	Lb	Part#	Adapters	UNITS
			FT710 LD	
5,5	12	F8071 WC	FT710 LDLH	2 TOP 2 BOTTOM
			FT710 LDRH	



X

Excavator Adapter



Kg	Lb	Part#	Cross Ref	Size		
60	132	80	3,1"	FT610	5898-V61	610
74	162	80	3,1"	FT690	5898-V69	690
75	164	90	3,5"	FT690-90	6803-V69	690
122	267	90	3,5"	FT710	2837-V71	710
118	260	100	3,9"	FT710-100	5897-V71	710
177	390	120	4,7"	FT810	3869B-V81	810

C

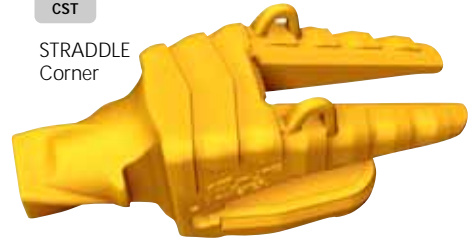
Corner



Kg	Lb	Part#	Cross Ref	Size				
152	334	90	3,5"	90	3,5"	FT610 C	RC-V61 R/L CR-V61 LA/RA	610
179	394	90	3,5"	80	3,1"	FT690 C	RS-V69 R-V69 L/R	690
282	620	100	3,9"	80	3,1"	FT710 C	RS-V71 R-V71 L/R	710
431	948	140	5,5"	100	3,9"	FT810 C	6807-V81 R-V81 R1/L1	810

CST

STRADDLE Corner



Kg	Lb	Part#	Cross Ref	Size				
87	191	80	3,1"	50	2,0"	FT610 CST	6822-V61	610
114	251	90	3,5"	70	2,8"	FT690 CST	6824-V69	690
147	322	100	3,9"	80	3,1"	FT710-100 CST	5899-V71	710
210	462	120	4,7"	90	3,5"	FT810 CST	5895L-V81 5895R-V81	810
218	479	140	5,5"	90	3,5"	FT810-140 CST	6808L-V81 6808R-V81	810



PN-HL TWISTER HL Hammerless Pin

Kg	Lb	L mm	L in	Part#	Size
1,4	3	156	6,1"	FT710 PN-HL	710
2,0	4	186	7,3"	FT810 PN-HL	810

TWISTER HL Rock Chisel

RC-HL



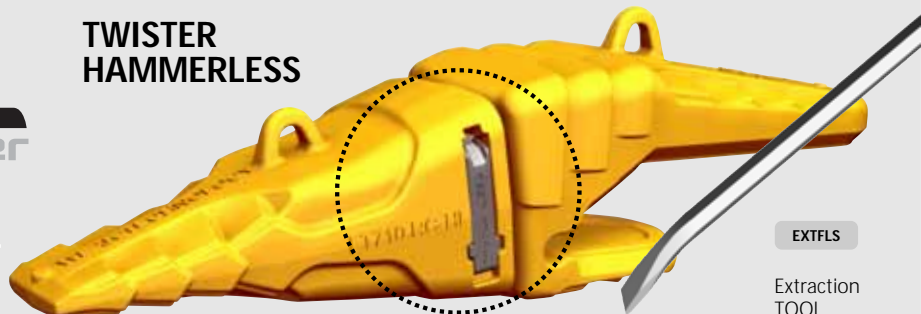
Kg	Lb	Part#	Cross Ref	Size
58,7	129	FT710 RC-HL	V71SD	710
90,8	200	FT810 RC-HL	V81SD	810



TWISTER HAMMERLESS

FULLY COMPATIBLE WITH YOUR CURRENT HELIX STYLE ADAPTER

EXCEPTIONAL FITMENT



EXTFLS

Extraction TOOL





### QUICK SELECTION GUIDE

NOSE SIZE	950 TOOTH 950	1100 TOOTH 920	1300 TOOTH 1120	1450 TOOTH 1220
MACHINE WEIGHT	UP TO 350T	350-500T	500-750T	750-1000T
HITACHI	EX3500, EX3500-3	EX3600	EX5500, EX5600	EX8000
TEREX	RH120E	RH170	RH340, RH360	RH400
CATERPILLAR	6030, 5230ME, 3560B	6040, 6050B, 5230B	6060FS	6090FS
KOMATSU	PC3000, PC3000-6	PC4000	PC4000, PC5500, PC5500-6	PC8000
KOMAT. (DEMAG)	H285	H285S	H485S	H48JS
LIEBHERR	R994, R9250	R9250, R9400, R9350, R994B	R995	R9800, R996

### FUTURA MINING SIZE 950

RC

Rock Chisel



Kg	Lb	Part#	Cross Ref.	Size
106,8	235	<b>FM950 RC</b>	fits S95SD	<b>950</b>

I

Impact



Kg	Lb	Part#	Cross Ref.	Size
104,0	229	<b>FM950 I</b>	fits S95RS	<b>950</b>

PNK

Mining Pin



L mm	inch	Ø inch	Kg	Lb	Part#	Cross Ref.	Size
280	11,0	61	2,4	5,2	11,3	<b>FM950 PNK</b>	S95RPN <b>950</b>

### FUTURA MINING SIZES 1100, 1300 AND 1450

RC

Rock Chisel



Kg	Lb	Part#	Cross Ref.	Cross Ref.	Nose	Adapt Size
61	133	<b>FM920 RC</b>	DRP 92KHA	DRP 92TKHA	920	<b>1100</b>
76	167	<b>FM1120 RC</b>	DRP 112KH	DRP 112TKH	1120	<b>1300</b>
105	231	<b>FM1220 RC</b>	DRP 122KH	DRP 122TKH	1220	<b>1450</b>

RCXL

Rock Chisel XL



Kg	Lb	Part#	Cross Ref.	Cross Ref.	Nose	Adapt Size
		<b>FM920 RCXL</b>	DRP 92KHRML	92TKHRML	1120	<b>1300</b>
99	218	<b>FM1120 RCXL</b>	DRP 112KHRML	112TKHRML	1120	<b>1300</b>
134	295	<b>FM1220 RCXL</b>	DRP 122KHM	122TKRXL	1220	<b>1450</b>

WT

Twin Tiger



Kg	Lb	Part#	Cross Ref.	Cross Ref.	Nose	Adapt Size
76	167	<b>FM1120 WT</b>	DRP 112KTVL	DRP 112TKTL	1120	<b>1300</b>
94	207	<b>FM1220 WT</b>	DRP 122KTVL	DRP 122TKTV	1220	<b>1450</b>

**FUTURA MINING COMPATIBILITY**



Futura Mining teeth will fit onto an Esco® Standard Posilok® as well as a Posilok® Plus Intermediate adapter.



Esco® Posilok® and Posilok® Plus teeth will fit onto Futura Mining Intermediate adapters.



Futura Mining Intermediate adapters will fit onto Esco® Posilok®, Hensley®, Caterpillar® and Bradken® Mining Adapters.

**EXTFM**

Pin Extractor for mining pins  
FM920 PN, FM1120 PN and FM1220 PN

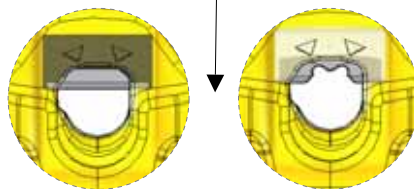
**Hardfacing service:**  
Tungsten coated mining teeth available



**STANDARD MINING PIN**

**PN**

DRP Posilok® Fits Posilok® Plus



**2 PIN OPTIONS: STANDARD OR HAMMERLESS**

**Maximum compatibility**  
One tooth covers two systems: **HAMMERLESS and NON-HAMMERLESS.**  
Fits onto Posilok® STANDARD and Posilok® PLUS intermediate adapters.

**HAMMERLESS MINING PIN**

**HLK**

Fits Posilok® Plus

Lmm	in	Ø	in	Kg	Lb	Part#	Cross Ref	Nose	Size
147	5,8	38	1,5	1,2	2,6	<b>FM920 PN</b>	DRP PN92K	920	<b>1100</b>
158	6,2	44	1,7	1,6	3,5	<b>FM1120 PN</b>	DRP PN112KC	1120	<b>1300</b>
189	7,4	50	2,0	2,3	5,0	<b>FM1220 PN</b>	DRP PN122KC	1220	<b>1450</b>

Lmm	in	Ø	in	Kg	Lb	Part#	Cross Ref	Nose	Size
147	5,8	38	1,5	1,5	3,3	<b>FM920 HLK</b>	92TK-PN	920	<b>1100</b>
158	6,2	44	1,7	1,8	4,0	<b>FM1120 HLK</b>	112TKPN-B	1120	<b>1300</b>
						<b>FM1220 HLK</b>	122TKPN	1220	<b>1450</b>

**IA**

Intermediate Adapter Caps

Kg	Lb	Part#	IA	Size
28	61	<b>FM1100-920 WC</b>	FM1100-920 IA	<b>1100</b>
40	87	<b>FM1300-1120 WC</b>	FM1300-1120 IA	<b>1300</b>
		<b>FM1450-1220 WC</b>	FM1450-1220 IA	<b>1450</b>

**IA**

Intermediate Adapter

Kg	Lb	Part#	DRP Pos.	DRP Pos+	DRP Hensley	DRP Caterpillar	Size
134	295	<b>FM1100-920 IA</b>	S110H92K	S110H92TK	390TS922		<b>1100</b>
192	422	<b>FM1300-1120 IA</b>	S130H112K	S130H112TK	640TS1122	345-9667	<b>1300</b>
		<b>FM1450-1220 IA</b>	S145H122K	S145H122TK	800TS1222		<b>1450</b>

**PIAK**

Intermediate Adapter Pin

Lmm	in	Ø	in	Kg	Lb	Part#	Cross Ref	Size
327	12,9	62	2,4	5,3	11,7	<b>FM1100 PIAK</b>	S110PN	<b>1100</b>
378	14,9	61	2,4	8,0	17,6	<b>FM1300 PIAK</b>	S130PNA	<b>1300</b>
						<b>FM1450 PIAK</b>	S145PNA	<b>1450</b> <b>1600</b>

**MINING ADAPTER WEAR CAPS**

Fit onto Esco® Adapters. The FM1100 WC needs a FUTURA hammerless pin.

Kg	Lb	Part#	Cross Ref	PIN	Size
22	48	<b>FM950 WC</b>	WC99	-	<b>950</b>
26	58	<b>FM1100 WC</b>	WC95	WC1100 PN	<b>1100</b>

**NEW!**





LIP SHROUDS

LS

Lip Shroud BODY



BASE

Lip Shroud BASE



PIN

Lip Shroud PIN



EXTFL



Pin Extractor for mechanical Lip Shrouds

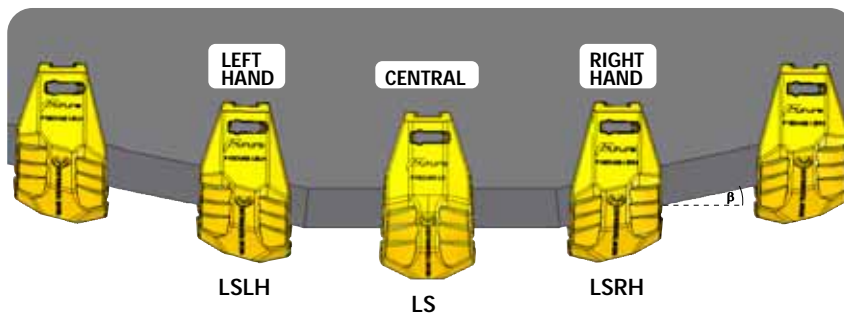
Kg	Lb	$\beta^\circ$	LH	Cross Ref	$\beta^\circ$	Part#	Cross Ref	RH	Cross Ref	Base+Pin	
45	98	90	3,5"	<b>F90X245 LSLH</b>	TAC90X245-2LA	14	<b>F90X245 LS</b>	TAC90X245-1A	<b>F90X245 LSRH</b>	TAC90X245-2RA	FAB FAP
79	174	90	3,5"	<b>F90X320 LSLH</b>	TAC90X320-6L	14	<b>F90X320 LS</b>	TAC90X320-5	<b>F90X320 LSRH</b>	TAC90X320-6R	
85	187	100	3,9"	<b>F100X290 LSLH</b>	TBC100X290-4L	14	<b>F100X290 LS</b>	TBC100X290-3	<b>F100X290 LSRH</b>	TBC100X290-4R	
88	194	100	3,9"	<b>F100X320 LSLH</b>	TBC100x320-2LA	14	<b>F100X320 LS</b>	TBC100X320-1B	<b>F100X320 LSRH</b>	TBC100X320-2RA	
126	277	100	3,9"	<b>F100X410 LSLH</b>	TBC100X410-4L	14	<b>F100X410 LS</b>	TBC100X410-3	<b>F100X410 LSRH</b>	TBC100X410-4R	
133	293	100	3,9"	<b>F100X430 LSLH</b>	TBC100X430-2L	14	<b>F100X430 LS</b>	TBC100X430-1	<b>F100X430 LSRH</b>	TBC100X430-2R	
120	264	120	4,72"	<b>F120X330 LSLH</b>	TBC120x330-2LA	14	<b>F120X330 LS</b>	TBC120x330-1A	<b>F120X330 LSRH</b>	TBC120x330-2RA	
154	339	120	4,72"	<b>F120X410 LSLH</b>	TBC120X410-3L	14	<b>F120X410 LS</b>	TBC120X410-4	<b>F120X410 LSRH</b>	TBC120X410-3R	FBB FBP
127	279	120	4,72"	<b>F120X440 LSLH</b>	TBC120X440-2LB	11,5	<b>F120X440 LS</b>	TBC120X440-1B	<b>F120X440 LSRH</b>	TBC120X440-2RB	
174	383	140	5,5"	<b>F140X420 LSLH</b>	TBC140X420-2LA	11,5	<b>F140X420 LS</b>	TBC140X420-1A	<b>F140X420 LSRH</b>	TBC140X420-2RA	
230	506	140	5,5"	<b>F140X575 LSLH</b>	TBC140X575LA	11,5	<b>F140X575 LS</b>	TBC140X57-1A	<b>F140X575 LSRH</b>	TBC140X575RA	
236	519	160	6,3"	<b>F160X450 LSLH</b>	TBC160X450-2L	14	<b>F160X450 LS</b>	TBC160X450-1	<b>F160X450 LSRH</b>	TBC160X450-2R	
			160	6,3"	<b>F160X570 LSLH</b>	14	<b>F160X570 LS</b>		<b>F160X570 LSRH</b>		
360	792	230	9,0"				<b>F230X430 LS</b>	TCCF130-28 TCCF130-21B TCCF130-21C TCCF130-16A		FCB FCP	



OPTIONAL THRUST BLOCKS



Part#	Lip Shroud
<b>TB140</b>	F140X475 LS/ RH/LH
<b>TB160140</b>	F140X420 LS/ RH/LH
<b>TB230</b>	F230X430 LS

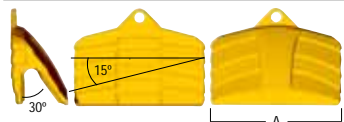


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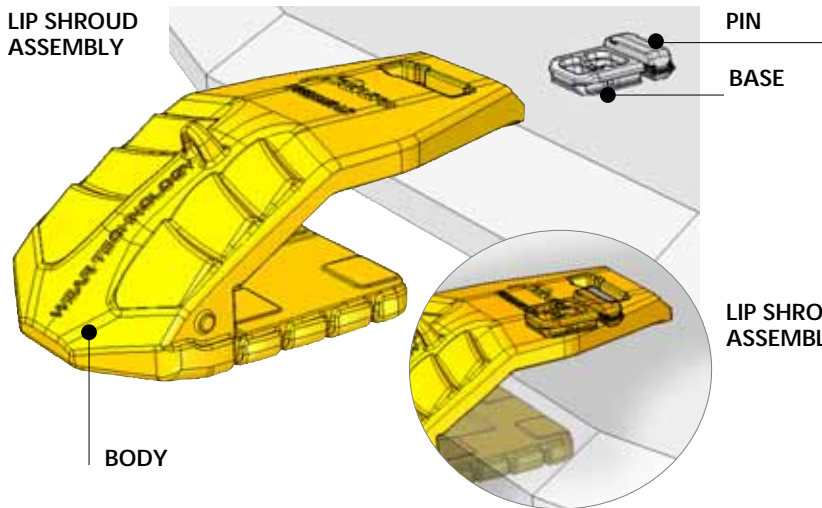
Lip Shroud WELD-ON TYPE



mm	A inch	Kg	Lb	Part#	$\beta^\circ$	Cross Ref
356	14,0"	34,6	76	<b>FEB90</b>	80	3,1" B90
		34,6	76	<b>FEB90</b>	100	3,9" B90L
		36,0	79	<b>FEB90 R</b>		B90R
		42,0	92	<b>F120 LS</b>		CESA 24 26-2A
		41,9	92	<b>F120 LSRH</b>	120	4,7" CESA 24 26-2A/RA
		41,9	92	<b>F120 LSLH</b>		CESA 24 26-2A/LA



LIP SHROUD ASSEMBLY




PIN

BASE


LIP SHROUD ASSEMBLED

BODY

FUTURA MINING TOP WING SHROUDS

Lmm	in	Kg	Lb		Part#	Cross Ref	Base	Pin	THRUST BLOCK	Cross Ref
440	17,3	27	58,3	40	<b>F40X440 UWS</b>	TAW40X440-1A	FAB	FAP	<b>FDD33095 TB</b>	PDD33095#1
600	23,6	34	73,7		<b>F40X600 UWS</b>	TAW40X600-1	FAB	FAP	<b>FDE51413 TB</b>	PDE51413#3
505	19,9	50	109,1	50	<b>F50X505 UWS</b>	TAW50X505-2	FAB	FAP	<b>FDD32816 TB</b>	PDD32816#1
505	19,9	32	69,3		<b>F50X505B UWS</b>	TAW50X505-1A	FAB	FAP	<b>FDD32816 TB</b>	PDD32816#1
545	21,5	52	114,4	75	<b>F75X545 UWS</b>	TBW75X545-1A	FBB	FBB	<b>FDE1987 TBLH</b>	PDE51987#2L
655	25,8	99	217,8		<b>F75X655 UWS</b>	TBW75X655-1	FBB	FBB	<b>FDE1987 TBRH</b>	PDE51987#2R
855	33,7	235	517,0	90	<b>F90X855 UWS</b>	TBW90X855-1A	FBB	FBB	<b>FDD32678 TB</b>	PDD32678#1
760	29,9	165	363,0	120	<b>F120X760 UWS</b>	TAW120X760-1	FAB	FAP	<b>FDD33024 TB</b>	PDD33024#1
800	31,5	238	523,6	140	<b>F140X800 UWS</b>	TBW140X800-1	FBB	FBB	<b>FDD33366 TB</b>	PDD33366#1

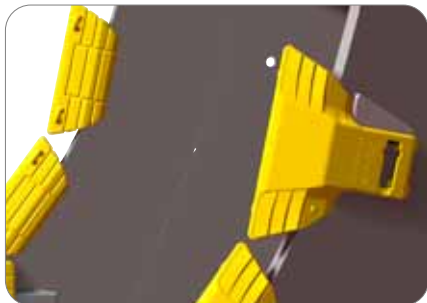
FUTURA MINING LOWER WING SHROUDS

Kg	Lb		Part#	Cross Ref	Base	Pin	THRUST BLOCK	Cross Ref	
69	151,8	50	2,0	<b>F50 LWS</b>	TAW50-1	FAB	FAP		
76	167,2	65	2,6	<b>F65 LWS</b>	TAW65-1	FAB	FAP	<b>FDD33808 TB</b>	PDD33808
81	178,2	75	3,0	<b>F75 LWS</b>	TAW75-1	FAB	FAP	<b>FDD33808 TB</b>	PDD33808
85	187,0	90	3,5	<b>F90 LWS</b>	TAW90-1	FAB	FAP	<b>FDD33808 TB</b>	PDD33808
92	203,1	115	4,5	<b>F115 LWS</b>	TAW115-1	FAB	FAP	<b>FDD33312 TB</b>	PDD33312#1
113	248,6	135	5,3	<b>F135 LWS</b>	TAW135-1	FAB	FAP	<b>FDD33312 TB</b>	PDD33312#1
195	429,0	165	6,5	<b>F165 LWS-RH</b>	TBW165-1R	FBB	FBB	<b>FDD33367 TB</b>	PDD33367#1
195	429,0			<b>F165 LWS-LH</b>	TBW165-1L				

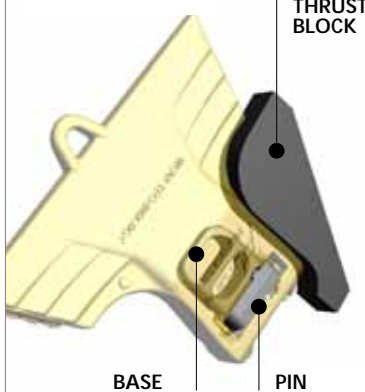
TOP WING SHROUD



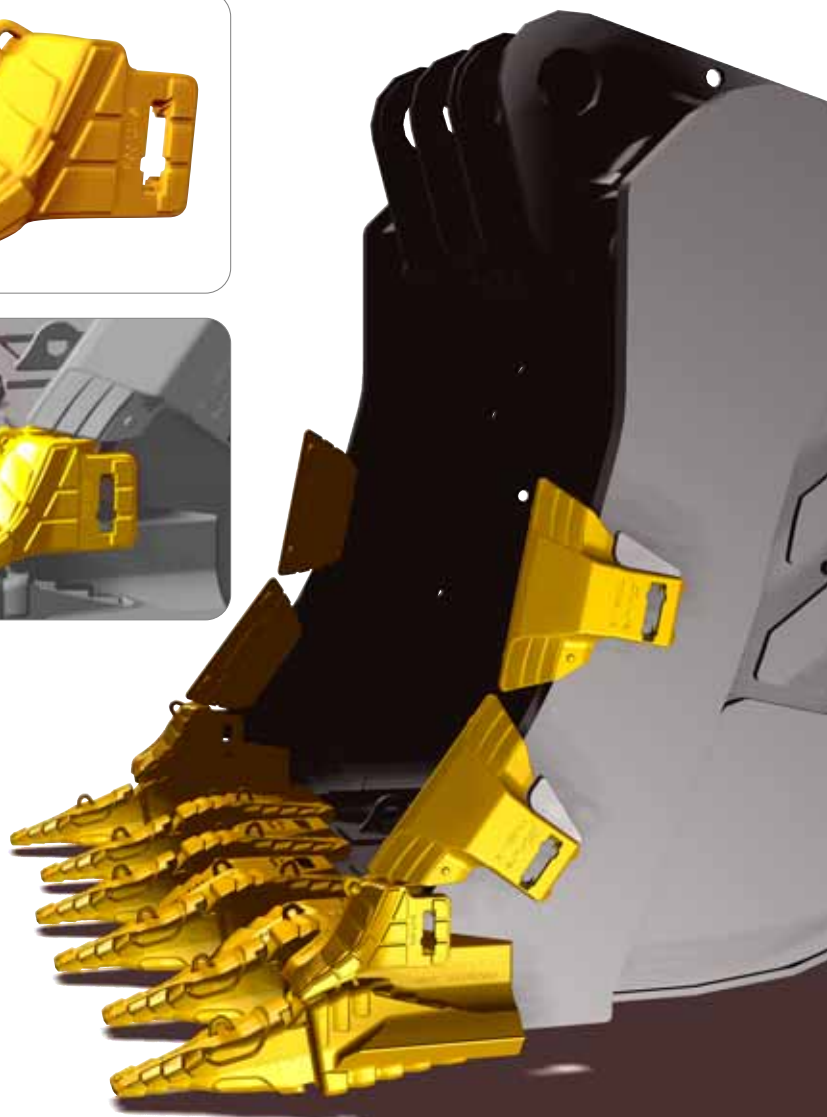
LOWER WING SHROUD



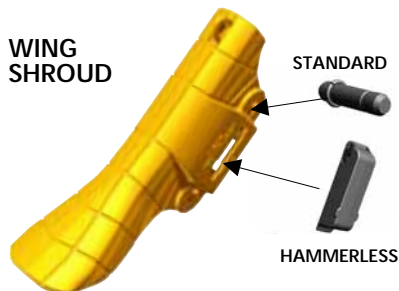
ASSEMBLY



Pin Extractor for Wing Shrouds



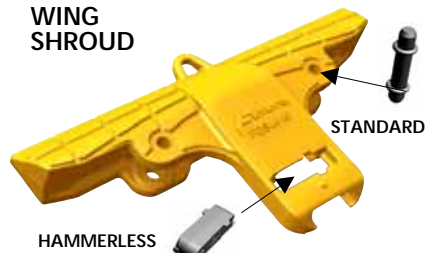
WING SHROUD





TWO LOCKING OPTIONS: STANDARD OR HAMMERLESS



WING SHROUD



Lmm	in		Kg	Lb	Part#	Cross Ref	
884	34,8	80	3,1	132,4	291,3	<b>FPDE52445</b>	PDE52445

Lmm	in		Kg	Lb	Part#	Cross Ref	
796	31,3	50	2,0	59,1	130,1	<b>FES4410</b>	ES4410



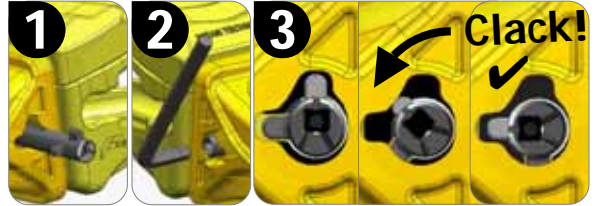


**HL2P**

Part#	OEM pins	retainers	Size
<b>FC600HL2P</b>	6l-6608 113-9608	6l-6609 113-9609	<b>60</b>
<b>FC700HL2P</b>	4T-4708 113-4708	4T-4707 113-4709	<b>70</b>
<b>FC800HL2P</b>	134-1808 102-0101	101-2874 134-1809	<b>80</b>



The HL2P System is **100% compatible** with your current side pin adapter ✓  
**Increased pin retention** ✓  
**Easy to install and remove** ✓



## FUTURA CLACK SYSTEM: A UNIVERSAL HAMMERLESS side pin solution 100% compatible with your Caterpillar side pin adapters



Kg	Lb	Part#	Cross Ref	Size
34,0	75	<b>FC600 VTL</b>	107-8609	<b>60</b>
45,0	99	<b>FC700 VTL</b>	4T-4702	<b>70</b>



Kg	Lb	Part#	Cross Ref	Size
38,8	85	<b>FC600 RPL</b>	7Y-0602	<b>60</b>



Kg	Lb	Part#	Cross Ref	Size
31,0	68	<b>FC600 L</b>	6l-6602	<b>60</b>



Kg	Lb	Part#	Cross Ref	Size
40,6	89	<b>FC600 SYL</b>	159-0607	<b>60</b>



Kg	Lb	Part#	Cross Ref	Size
51,7	114	<b>FC600 RP</b>	6l-6603 RP	<b>60</b>
65,2	143	<b>FC700 RP</b>	4T-4703 RP	<b>70</b>
100,2	220	<b>FC800 RP</b>	6l-8803	<b>80</b>



Kg	Lb	Part#	Cross Ref	Size
60,5	133	<b>FC600 RPHD</b>	135-9600	<b>60</b>
74,1	163	<b>FC700 RPHD</b>	135-9700	<b>70</b>
120,5	265	<b>FC800 RPHD</b>	135-9800	<b>80</b>



Kg	Lb	Part#	Cross Ref	Size
56,5	124	<b>FC600 RPHD2</b>	135-9600	<b>60</b>
74,5	164	<b>FC700 RPHD2</b>	135-9700	<b>70</b>
123,2	271	<b>FC800 RPHD2</b>	135-9800	<b>80</b>



Kg	Lb	Part#	Cross Ref	Size
39,9	88	<b>FC600 WTL</b>	6l-6602 WTL 135-9608	<b>60</b>
54,2	119	<b>FC700 WTL</b>	4T-4702 WTL	<b>70</b>



Kg	Lb	Part#	Cross Ref	Size
40,6	89	<b>FC600 RC</b>	6l-6602 RC 119-9609	<b>60</b>
57,2	126	<b>FC700 RC</b>	4T-4702 RC	<b>70</b>
84,7	186	<b>FC800 RC</b>	-	<b>80</b>



Kg	Lb	Part#	Cross Ref	Size
40,5	89	<b>FC600 RE</b>	6l-6602 RC 119-9609	<b>60</b>
55,5	122	<b>FC700 RE</b>	4T-4702 RC	<b>70</b>



Kg	Lb	Part#	Cross Ref	Size
27,3	60	<b>FC600 P</b>	7l-7609	<b>60</b>
37,4	82	<b>FC700 P</b>	4T-4709	<b>70</b>
54,8	121	<b>FC800 P</b>	117-6809	<b>80</b>



Kg	Lb	Part#	Cross Ref	Size
30,3	67	<b>FC600 TL</b>	6l-6602 TL 107-8609	<b>60</b>
44,0	97	<b>FC700 TL</b>	4T-4702 TL	<b>70</b>

Other manufacturer's names, descriptions, pictures and part numbers are used for reference purposes only.

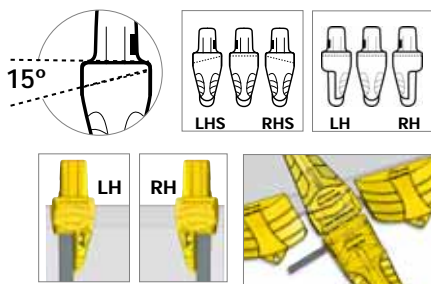
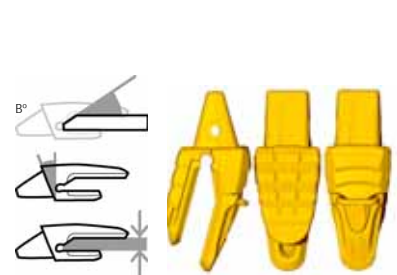
DIRECT REPLACEMENT PARTS FOR CATERPILLAR ADAPTERS



Kg	Lb	B°		Part#	OEM	RH	LH	RHS	LHS	Size	
64	142	22°	70 75	2,8" 3"	<b>FC600</b>	61-6604	✓	✓	✓	✓	<b>60</b>
64	142	22°	80	3,1"	<b>FC600-80</b>		✓	✓			
87	192	35°	90	3,5"	<b>FC700</b>	222-7700	✓	✓	✓	✓	<b>70</b>
87	192	35°	95	3,7"	<b>FC700-95</b>		✓	✓			
122	268	30°	100	3,9"	<b>FC800</b>	61-8804	✓	✓			<b>80</b>



Kg	Lb	B°		Part#	OEM	Size
77	169			<b>FC600 S</b>	119-8604	
78	172	22°	70	2,8"	<b>FC600 S RHS</b>	119-8605
				<b>FC600 S LHS</b>	119-8606	<b>60</b>
78	171			<b>FC700 S</b>	133-0704	
79	173	22°	70	2,8" 75	<b>FC700 S RHS</b>	133-0705
				<b>FC700 S LHS</b>	133-0706	<b>70</b>
124	272	22°	100	3,9"	<b>FC800 S</b>	61-8804



WELD-ON CONVERSION NOSES



Kg	Lb	Part#	Size
26,0	57	<b>WN-600</b>	<b>60</b>
31,2	69	<b>WN-700</b>	<b>70</b>
44,3	97	<b>WN-800</b>	<b>80</b>

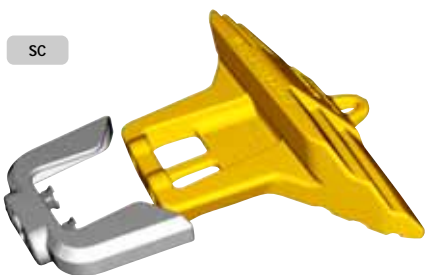
Weld On Noses are the **easiest and quickest** way to convert any proprietary adapter into the **High Performance FUTURA Hammerless system**

WEAR CAPTS

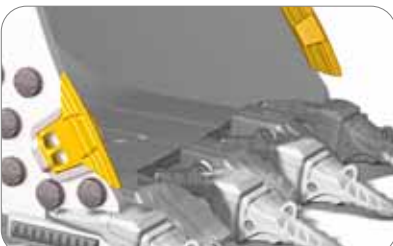


WC					WC7				
Kg	Lb	Part#	Size		Kg	Lb	Part#	Size	
4,7	10	<b>FC550 WC</b>	<b>55</b>	<b>500HB</b>	4,7	10	<b>FC550 WC7</b>	<b>55</b>	<b>700HB</b>
8,1	18	<b>FC600 WC</b>	<b>60</b>		7,9	17	<b>FC600 WC7</b>	<b>60</b>	
10,2	22	<b>FC700 WC</b>	<b>70</b>		9,9	22	<b>FC700 WC7</b>	<b>70</b>	
15,9	35	<b>FC800 WC</b>	<b>80</b>		15,0	33	<b>FC800 WC7</b>	<b>80</b>	

MECHANICALLY ATTACHED SIDE CUTTERS 500HB



Amm in	Bmm in	Kg	Lb		Part#	OEM				
483	19	106	4	28	62	30	1,2" 2"	<b>F3050 SC</b>	TAW38X440 TAW40X440 TAW50X505	
603	24	373	15	59	129	60	2,4" 80	3,1"	<b>F6080 SC</b>	TBW75X545 TBW75X655



WELD-ON LIP SHROUDS

LS										
mm	A in	α	Kg.	Lb	Part#		Size			
21,0	46				<b>F70 LS</b>	70	2,8"	<b>600</b>		
21,9	48	22			<b>F70 LSRH</b>	75	3"			
21,9	48				<b>F70 LSLH</b>					
35,7	79				<b>F90 LS</b>	80	3,1"	<b>700</b>		
36,7	81	35			<b>F90 LSRH</b>	100	3,9"			
36,7	81				<b>F90 LSLH</b>					

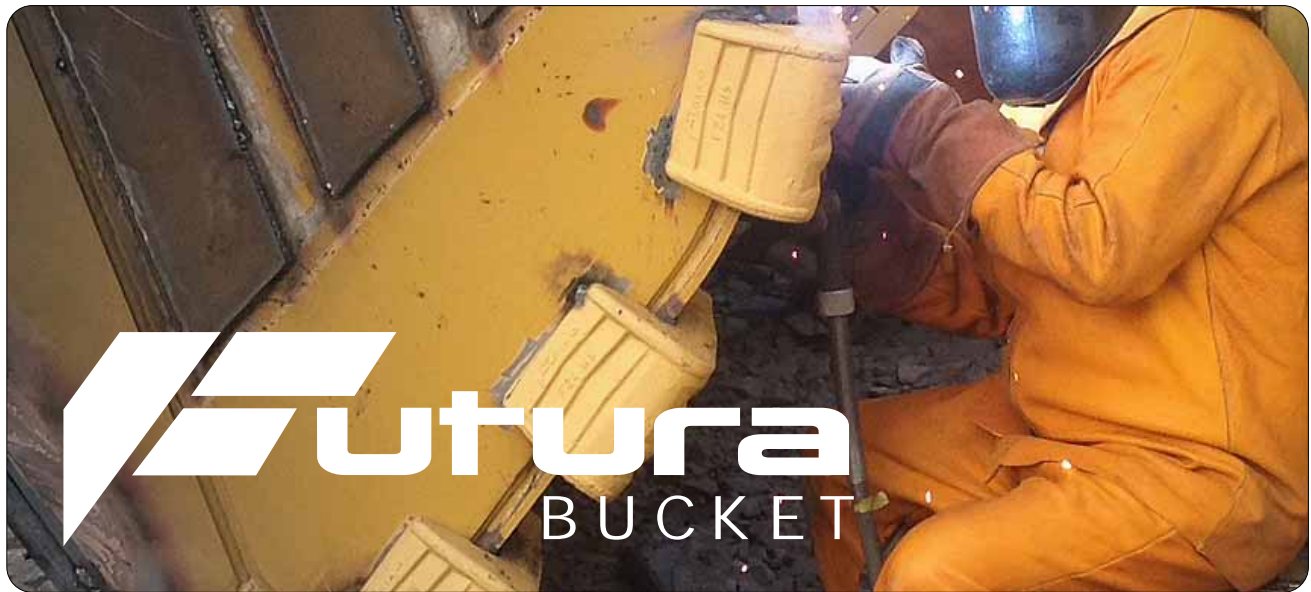


MECHANICALLY ATTACHED LIP SHROUDS 500HB

LSQR										
mm	A in	α	Kg.	Lb	Part#		Size			
40,7	90				<b>F70 LSQR</b>	70	2,8"	<b>600</b>		
43,3	95	22			<b>F70 LSQR RH</b>	75	3"			
43,3	95				<b>F70 LSQR LH</b>					
70,6	155				<b>F90 LSQR</b>	80	3,1"	<b>700</b>		
73,8	162	35			<b>F90 LSQR RH</b>	90	3,5"			
73,8	162				<b>F90 LSQR LH</b>					
97,2	214				<b>F100 LSQR</b>	100	3,9"	<b>700</b>		
105,7	233	30			<b>F100 LSQR RH</b>	100	3,9"			
104,2	229				<b>F100 LSQR LH</b>					
98,0	216				<b>F120 LSQR</b>	120	4,7"	<b>800</b>		
102,0	224	30			<b>F120 LSQR RH</b>	120	4,7"			
102,0	224				<b>F120 LSQR LH</b>					







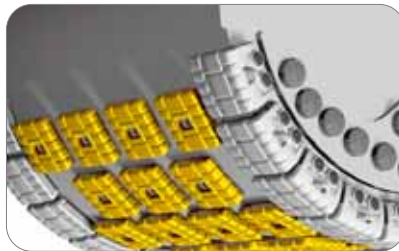
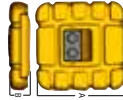
# Futura BUCKET

## WR Wear Runner

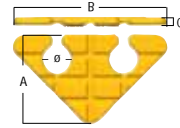


mm	A in	B	Kg.	Lb	Part#	Cross Ref
206	8,1"	39	1,5"	9,9	22 <b>F39 WR</b>	KLR01MC
206	8,1"	49	1,9"	12,2	27 <b>F49 WR</b>	KLR02MC B8X8WR175
256	10,1"	59	2,3"	22,9	50 <b>F59 WR</b>	KLR01MB
256	10,1"	79	3,1"	31,1	68 <b>F79 WR</b>	KLR02MB B10X10WR275

## 500HB



## PTV



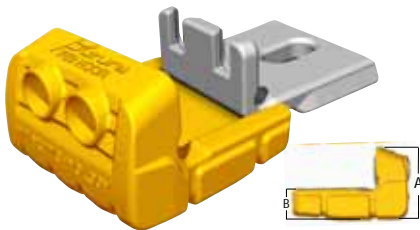
## 450HB

Universal  
Weld-on  
Wear Pad



mm	A in	B	C	Ø	Kg.	Lb	Part#			
158	6,2"	275	10,8"	16	0,6"	50	2,0"	2,0	4	<b>PTV-01</b>

## HSQR Heel Shroud



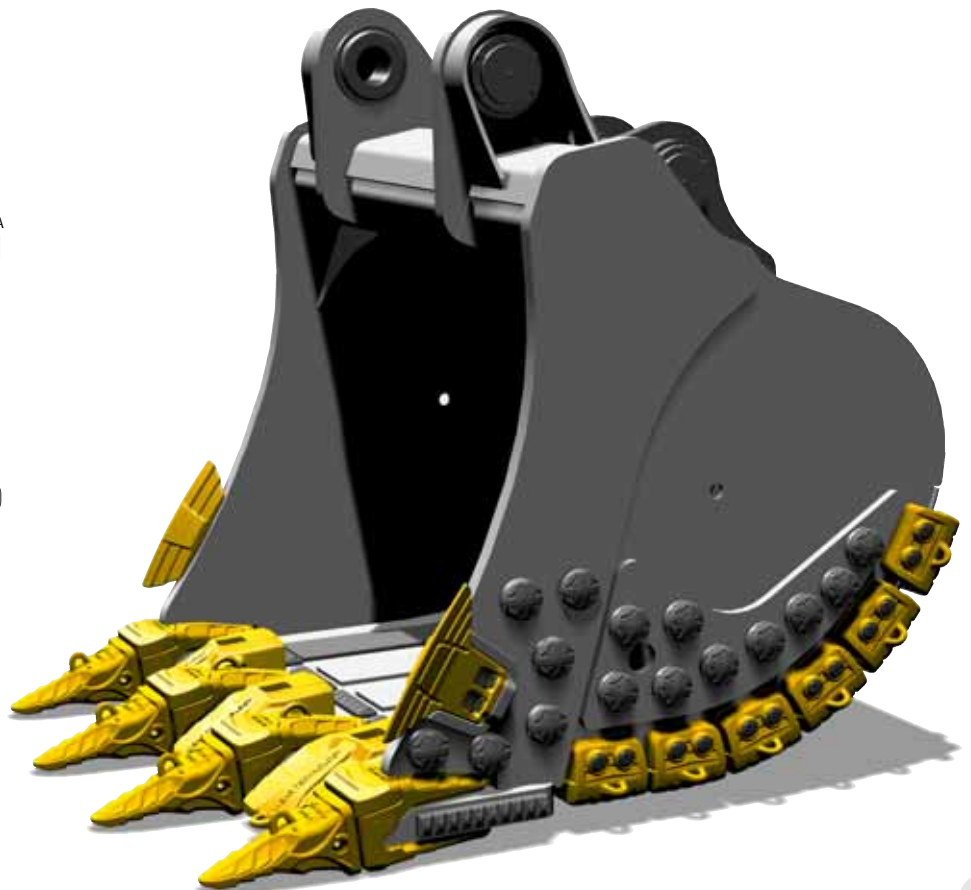
mm	A in	B	Kg.	Lb	Part#	Cross Ref
123	4,8"	49	1,9"	19,5	43 <b>F49 HSQR</b>	ES6697-4 ES6697-4HX
133	5,2"	59	2,3"	21,6	47 <b>F59 HSQR</b>	ES6697-3 ES6697-3HX
183	7,2"	69	2,7"	40,3	89 <b>F69 HSQR</b>	ES6697-2 ES6697-2HX
233	9,2"	89	3,5"	62,2	137 <b>F89 HSQR</b>	ES6697-5 ES6697-5HX

## HS



Heel Shroud

mm	A in	B	Kg.	Lb	Part#	Cross Ref
183	7,2"	38	1,5"	9,6	21 <b>F10 HS</b>	ES6697-4 ES6697-4HX
204	8,0"	43	1,7"	11,9	26 <b>F12 HS</b>	ES6697-3 ES6697-3HX
266	10,5"	64	2,5"	23,2	51 <b>F24 HS</b>	ES6697-2 ES6697-2HX
307	12,1"	64	2,5"	40,6	89 <b>F40 HS</b>	ES6697-5 ES6697-5HX
361	14,2"	115	4,5"	87,9	193 <b>F90 HS</b>	ES6697-7

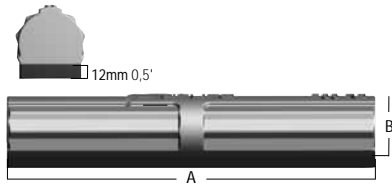


# Chrome white iron parts

RB

Roll Bar 700HB

**700HB**

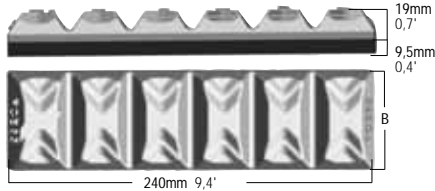


mm	A	inc	B	Ø	Kg.	Lb	Part#	Cross Ref
229	9"	28	1,1"	35	1,4"	1,9	4	<b>F35 RB</b> 280-4096
305	12"	42	1,7"	55	2,2"	5,7	12	<b>F55 RB</b> 280-4097
305	12"	59	2,3"	80	3,1"	10,8	24	<b>F80 RB</b> 280-4098

CB

Chocky Bars 700HB

**700HB**

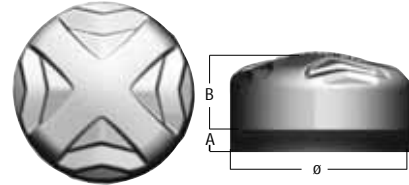


mm	B	inch	Kg.	Lb	Part#	Cross Ref
25	1,0"	1,0	2	<b>F25 CB</b>	D25CB	
40	1,6"	1,6	4	<b>F40 CB</b>	D38CB, CB40N, 1086NA	
50	2,0"	2,1	5	<b>F50 CB</b>	D51CB, CB50N	
65	2,6"	2,8	6	<b>F65 CB</b>	D64CB, CB65N, 1088NA	
100	3,9"	4,3	9	<b>F100 CB</b>	D100CB, CB100N	
150	5,9"	5,7	13	<b>F130 CB</b>	D130CB, CB130N, 090NA	

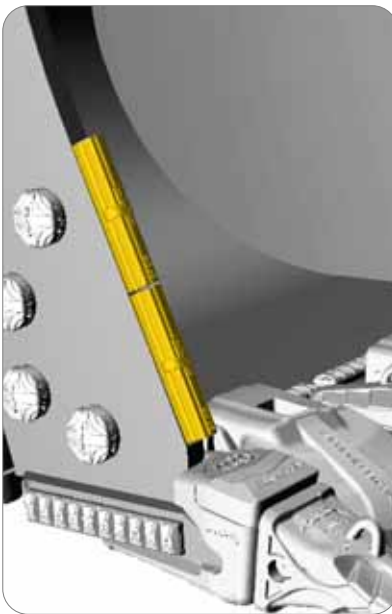
WB

Wear Buttons 700HB

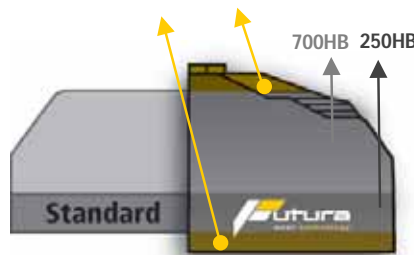
**700HB**



mm	A	inc	B	Ø	Kg.	Lb	Part#	Cross Ref
9,5	0,4"	21	0,8"	60	2,4"	0,6	1	<b>F60 WB</b> D50BN WB60
9,5	0,4"	28	1,1"	75	3,0"	1,1	2	<b>F75 WB</b> D75BN WB75
9,5	0,4"	34	1,3"	90	3,5"	1,4	3	<b>F90 WB</b> D90BN WB90
13	0,5"	35	1,4"	115	4,5"	3,3	7	<b>F115 WB</b> D114BN
16	0,6"	45	1,8"	150	5,9"	7,2	16	<b>F150 WB</b> D150BN WB150



FUTURA wear buttons & bars are manufactured with **20% more wear material** in the wear area and the welding plate than other standard buttons and bars



## Extremely hard

Available in different sizes and shapes, the FUTURA Chrome white iron part is extremely hard, laminated bi-metallic, wear resistant composite with chrome-molly white iron being bonded onto a mild steel backing plate. The bonding shear strength is over 210 Mpa and will not separate

## Consistent properties

Post bonding heat treatment is conducted to ensure the FUTURA parts have finely dispersed microstructure and more consistent properties compared to most brands in the market.

## Hardness 700HB

The hardness of alloy, 700 brinell or HRC 63 minimum, provides maximum abrasion resistance, while the steel backing plate acts as a means of absorbing high impacts and allows easy fitting and use. The ideal working temperature for FUTURA Bucket parts is no higher than 300°C.

## Applications

Typical applications include buckets (excavator, loader, dragline, face shovel), crusher spider arm guards, discharge chutes, rock boxes, grizzly bars or feeders, shredder and grinding mills, sugar cane knife edges, adaptor, attachment protection, dredging equipment, screen feed distribution and feed hopper wear areas.





# Chromium carbide overlay plate

## OVERLAY WEAR 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

HV600±

## TOLERANCES

± 1mm

## HEAT RESISTANCE

Maximum: 400°C

## MICROSTRUCTURE

Mixture of high volume hexagonal shaped chromium carbide in tough austenitic and martensitic matrix (GRADE 2355)

## PENETRATION TO THE BASE METAL

1.5mm

## COLD FORMING

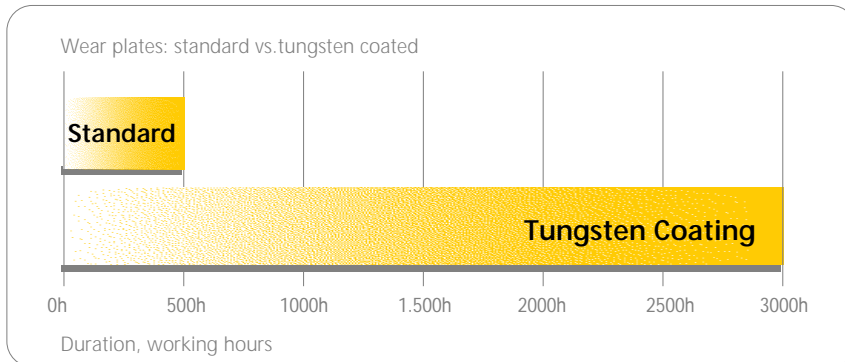
Minimum Radius: 150mm (for 6+4) Suggested: using hydraulic press to bend plate

## CUTTING

Plasma (from backing plate side) / Laser Cutting / Water Jet Knife

## APPLICATIONS

Ash liners, Blast furnace bell & burden, Elbow, Sinner plant, Bucket & Lips, Drag liners, Duct, Chute & Hopper liners, Classifier, Fan blades & Housings, Mine car liners, Cyclones, Ore chutes, Discharge funnels, Slag chutes, Dredge pump side plates, Extension ring, Cement kilns, Grizzly bars, Vibrator pan feeder liner, Sinter breaker bar, Conveyor casings, Green walt crushers, Steel plant, etc...



# Arm hardfacing service

## What is a tungsten coating?

A tungsten coating is made of **extremely hard Tungsten particles** (Tungsten is harder than Quartz and Topaz).

This coating forms a **protective shield** over key wearing surfaces. The Tungsten coating is bondable to practically any tip, blade or wear part manufactured by BYG.

## ARM applications

Tungsten coating is recommended for applications where **sand, gravel and other abrasive materials** severely diminish wear parts life.

ARM hardfacing is a great way to extend life in areas with high wear but low impact conditions.

The use of the ARM coating is recommended on the following applications: Mining, mineral processing, dredging, etc and on the following parts: tips, adapters, shrouds, cuttings, edges, blades, wear caps, etc...

Tungsten Coating cutting edges work best in high abrasion/low to moderate impact applications.

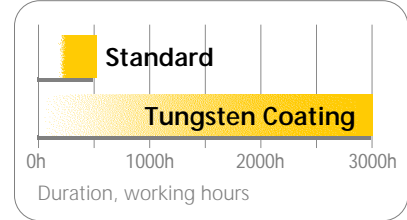
Please do ask us for advise on the use of tungsten components on your work area.

## Economy

BYG tungsten coating protects components from wear in critical areas. Compared with non-coated components, protected parts can last up to 3-5 times longer in high abrasion/low to moderate impact conditions. This represents a substantial saving on total operating costs. The tungsten coating delivers dramatically lower costs per hour in appropriate applications.

Tungsten coating enhanced wear patterns improve penetration and help your machines do more work each hour, which increases productivity and therefore profitability. Long wear life means you'll spend less time replacing wear parts, which help reduce total operating costs.

Bolt-on edges: standard vs.tungsten coated



**BYG offers the ARM harfacing service for any of its listed parts on demand. Please consult.**



Tungsten protects components from wear in critical areas



ARM hardfacing is a great way to extend life in areas with high wear but low impact conditions.

Tungsten coated ripper tooth



Other manufacturer's names, descriptions, pictures and part numbers are used for reference purposes only.







# Ripper

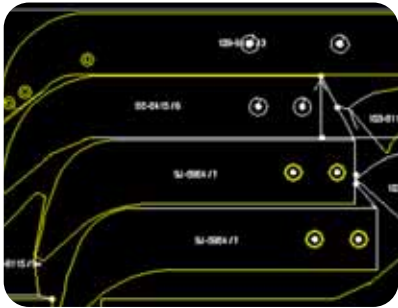
## ONE-PIECE MACHINE FINISHED RIPPER SHANKS

### RIPPERS

<b>HARDNESS, Brinell HB</b>	350 HBW
<b>THICKNESSES</b>	40-120mm.
TYPICAL VALUES of...	
Impact Strength Charpy V notch longitudinal test piece at -40°C	
for <70mm. thick plate	95J
for >70mm. thick plate	70J
Tensile Strength	
for <70mm. thick plate	980 MPa
for >70mm. thick plate	900 MPa

**Hardox HiTuf**

**Hardox 400**



BYG manufactures one-piece machine finished ripper shanks without any welding avoiding the risk of breakage on welded areas

#### High toughness

Ripper toughness is very high even under the most difficult ripping conditions, such as low temperature / extreme ripping conditions, because we use the highest quality steel available.

#### High strength

Due to its high strength, BYG shanks have better dimensional stability because they maintain the same thickness along the shank and thus sustain a smaller amount of permanent deformation.

#### BYG one-piece ripper shanks are cut to length, formed and fully machined

Made of tough abrasion resistant alloy steel and thru-hardened for strength and maximum wear life. BYG offers a complete range of shanks for main O.E.M. brands on the market, covering from the smallest ripper shank up to the largest 110 mm thick, for the biggest dozers on the market.

#### Improved adapter profile

Improved adapter profile by making the gap between the adapter and the protector to the minimum.

#### Improved design

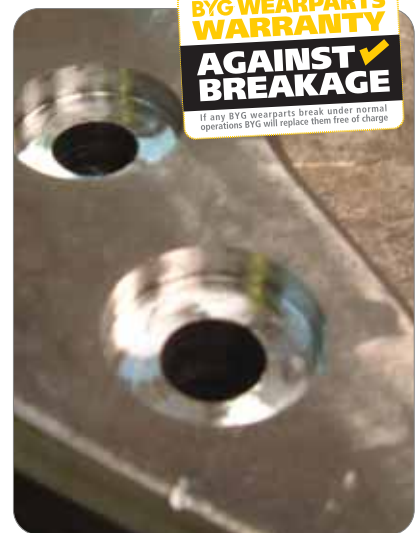
Reinforced adapter box keeps ripper teeth movement to the minimum as well as protecting the rear area of the tip.

**Better dimensional stability** with same thickness of material.



### Machine finished ripper shanks

Manufactured in one piece for superior strength



**BYG WEARPARTS WARRANTY**  
**AGAINST BREAKAGE**  
If any BYG wearparts break under normal operations BYG will replace them free of charge

Other manufacturer's names, descriptions, pictures and part numbers are used for reference purposes only.

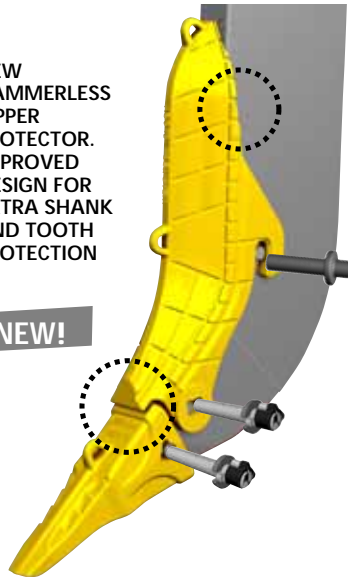
CLACK SYSTEM: THE FULLY HAMMERLESS RIPPER SYSTEM

**FUTURA  
CLACK SYSTEM**  
100% compatible  
with your current  
Caterpillar  
ripper shanks

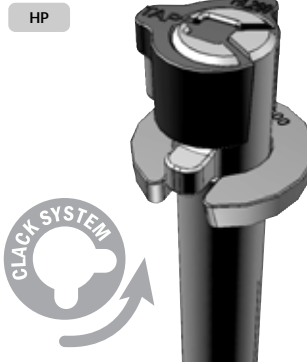


**NEW!**  
NEW  
HAMMERLESS  
RIPPER  
PROTECTOR.  
IMPROVED  
DESIGN FOR  
EXTRA SHANK  
AND TOOTH  
PROTECTION

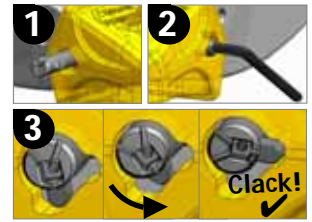
**NEW!**



Kg	Lb	↔	Part#	OEM
50,5	111	75 3,0"	<b>FC75 RPT</b>	6J-8814 132-4716
105,8	233	90 3,5"	<b>FC90 RPT</b>	9W-8365 132-1014
108,6	239	100 3,9"	<b>FC100 RPT</b>	6Y-8960 132-1015
146,5	322	110 4,3"	<b>FC110 RPT</b>	9N-4621 132-1016



ø	inch	Kg	Lb	Part#	Size
20,5	0,8	0,3	0,6	<b>FCR300HP</b>	R300
20,5	0,8	0,4	0,8	<b>FCR350HP</b>	R350
26,0	1,0	0,7	1,5	<b>FCR450HP</b>	R450
33,0	1,3	1,2	2,7	<b>FCR500HP</b>	R500
37,5	1,5	1,7	3,8	<b>FCR550HP</b>	R550



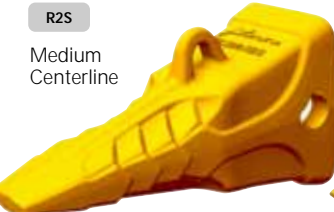
**Hammerless**



Kg	Lb	Part#	OEM	Size
19,3	42	<b>FC450 R1</b>	9W-2451 4T-5451	<b>R450</b>
32,0	70	<b>FC500 R1</b>	4T-4501 4T-5501	<b>R500</b>
51,1	112	<b>FC550 R1</b>	9W-4551	<b>R550</b>



Kg	Lb	Part#	OEM	Size
6,3	14	<b>FC300 R2</b>	4T-4302 6Y-0309	<b>R300</b>
14,6	32	<b>FC350 R2</b>	6Y-0352 6Y-0359	<b>R350</b>
20,8	46	<b>FC450 R2</b>	9W-2452 4T-5452	<b>R450</b>
30,0	66	<b>FC500 R2</b>	4T-5502	<b>R500</b>
55,4	122	<b>FC550 R2</b>	6Y-3552	<b>R550</b>



Kg	Lb	Part#	OEM	Size
36,3	80	<b>FC500 R2S</b>	4T-4502	<b>R500</b>
57,0	125	<b>FC550 R2S</b>	9W-4552	<b>R550</b>



Kg	Lb	Part#	OEM	Size
14,3	31	<b>FC350 R2ST</b>	6Y-0352ST	<b>R350</b>
19,8	44	<b>FC450 R2ST</b>	9W2452ST	<b>R450</b>
32,7	72	<b>FC500 R2ST</b>	4T-5502ST	<b>R500</b>



Kg	Lb	Part#	OEM	Size
22,9	50	<b>FC450 R3</b>	114-0453	<b>R450</b>
37,9	83	<b>FC500 R3</b>	4T-5503 4T-4503	<b>R500</b>



Kg	Lb	Part#	OEM	Size
36,6	81	<b>FC500 R3ST</b>	4T-5503 4T-4503	<b>R500</b>

**HAMMERLESS RIPPER TOOTH WITH REPLACEABLE TIP**

Kg	Lb	Part#	Size
12,4	27	<b>FC500 TXR2</b>	<b>R500</b>

Kg	Lb	Part#	OEM	Size
37,8	83	<b>FC500 R2P</b>	4T-4501 4T-5501	<b>R500</b>

**TUNGSTEN COATED RIPPER TEETH**

**new!**

**DIRECT REPLACEMENT PARTS FOR KOMATSU**

Kg	Lb	Part#	OEM	Size
16,8		<b>FK155 R2</b>	175-78-31230 175-78-31232	<b>155</b>
21,0	46	<b>FK355 R2</b>	195-78-21331 195-78-21333	<b>355</b>
30,9	68	<b>FK375 R2</b>	195-78-71320 195-78-71330	<b>375</b>
38,2	84	<b>FK475 R2</b>	198-78-21420 198-78-21380	<b>475</b>

**DIRECT REPLACEMENT PARTS FOR ESCO**

Kg	Lb	Part#	OEM	Size
4,1	9	<b>FE22 R2</b>	22-R10	<b>22</b>
6,2	14	<b>FE25 R2</b>	25-R12	<b>25</b>
14,5	32	<b>FE35 R2</b>	35-RH14A	<b>35</b>
14,2	31	<b>FE35 R2S</b>	35-R14	
			39-R17E	
26,0	57	<b>FE39 R2</b>	39-RH17E 39-RH18A	<b>39</b>

Other manufacturer's names, descriptions, pictures and part numbers are used for reference purposes only.



# Dozer edges and endbits

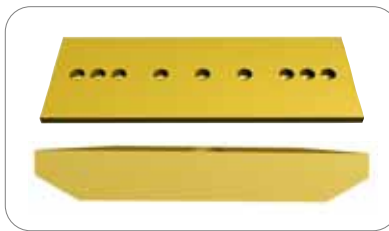
## BYG blades for Bulldozer

BYG offers cutting edges of different sections for ease of installation, maintenance, handling and storage. As these sections can be replaced, or rotated individually, they are more economical, so that each can be utilized to the maximum amount of wear.

They are made of rolled steel with a high resistance to breakage. Deep Hardened to increase wear resistance. Deep-drawn for better protection of the lag screws. Available in different thicknesses to suit the work being done.

## Rolled steel blades

Standard bulldozer blades for general use made out of rolled steel. Rolled steel blades are available in different thicknesses to suit work being done.



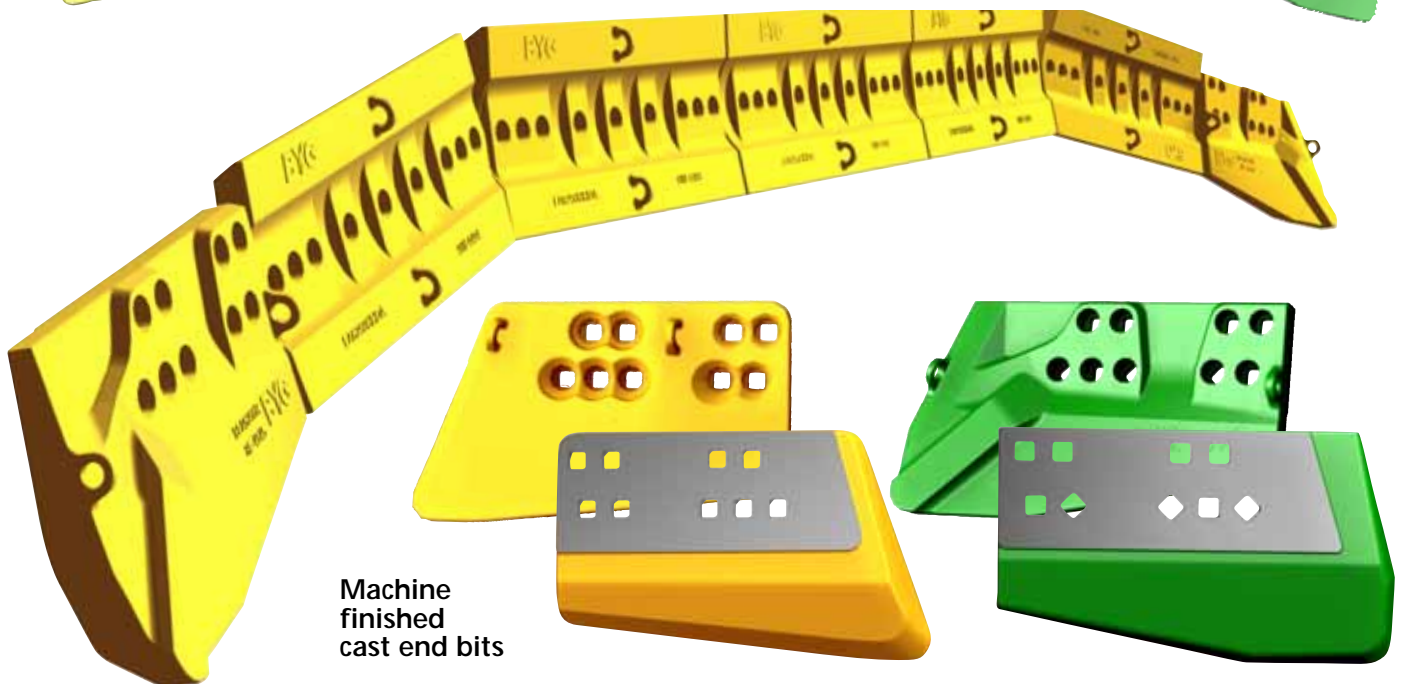
## Cast blades

Special cast blade for use in high abrasion and or high impact conditions. They are notably reinforced and provide greater resistance to breakage compared to rolled blades.



Rolled blade

Cast blade

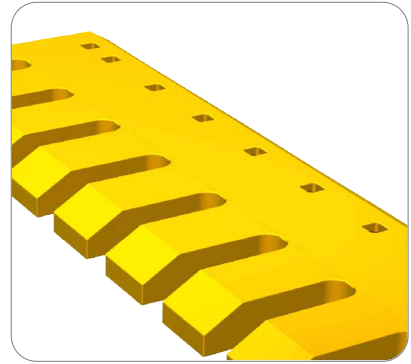


Machine finished cast end bits

# Grader blades

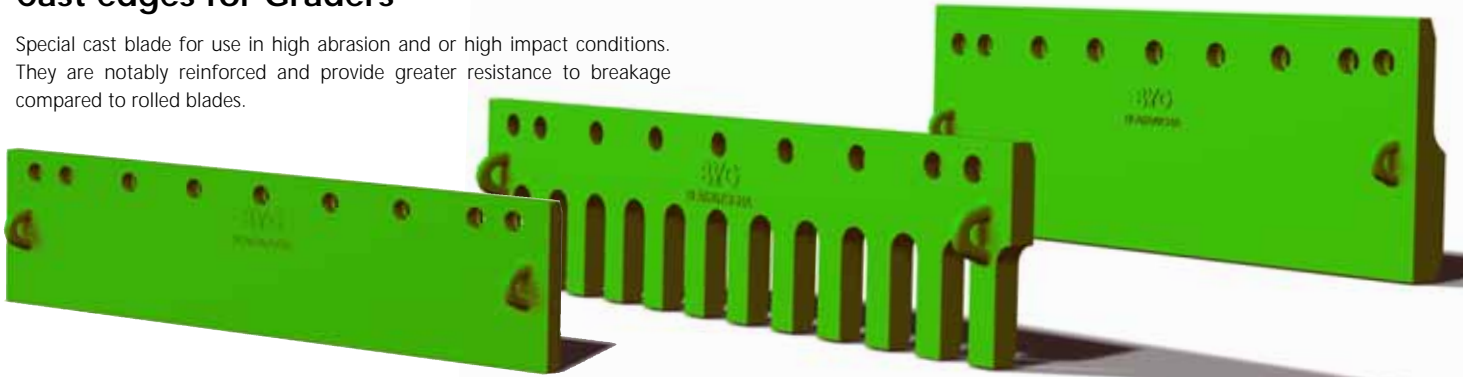
rolled, cast and carbide overlay

## Rolled steel edges for Graders



## Cast edges for Graders

Special cast blade for use in high abrasion and or high impact conditions. They are notably reinforced and provide greater resistance to breakage compared to rolled blades.

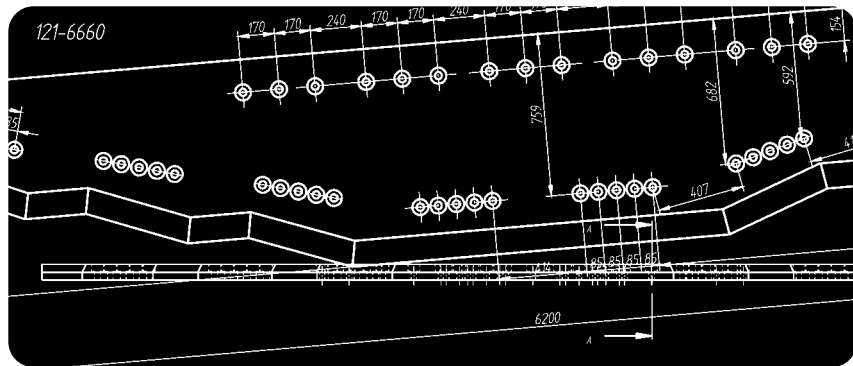


## Carbide overlay cast edges for Graders





# Fabricated steel lips



Fabricated steel lips for excavators and loaders



Lips up to 6,3" (160mm.)

OPTIONS:

**Hardox 400**

**Hardox HiTuf**

**Weldox 700**



Cast lip protectors for loaders



Loader lips, Futura Hammerless, DRP BYG Classic or TWISTER



TWISTER LIPS Excavator lips up to 5,5" (140mm)



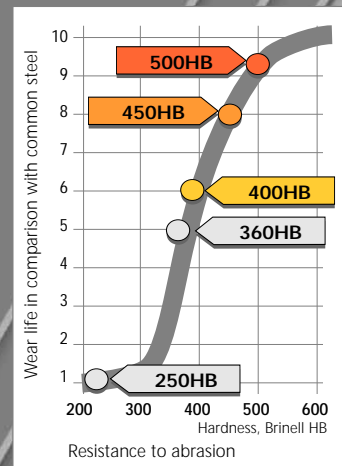
FUTURA MINING lips Excavator lips up to 6,3" (160mm)



Other manufacturer's names, descriptions, pictures and part numbers are used for reference purposes only.



# Wear Plates



Mechanical properties	steel 400HB	steel 450HB	steel 500HB
<b>HARDNESS, Brinell HB</b>	370-450 HB	425-475 HB	450-560 HB
<b>THICKNESSES</b>	10-100mm.	5-80mm.	5-80mm.
<b>TYPICAL VALUES of...</b>			
<b>Impact Strength</b>	30J	35J	25J
<b>Strength</b>			
Yield strength $R_e$	1000 $R_e$	174.165	188.679
Ultimate tensile strength $R_m$	1275 $R_m$	203.193	224.963
Elongation $A_5$	12%	10,0%	8,0%
<b>Carbon equiv.value (CEV)</b>	0,38	0,48	0,58

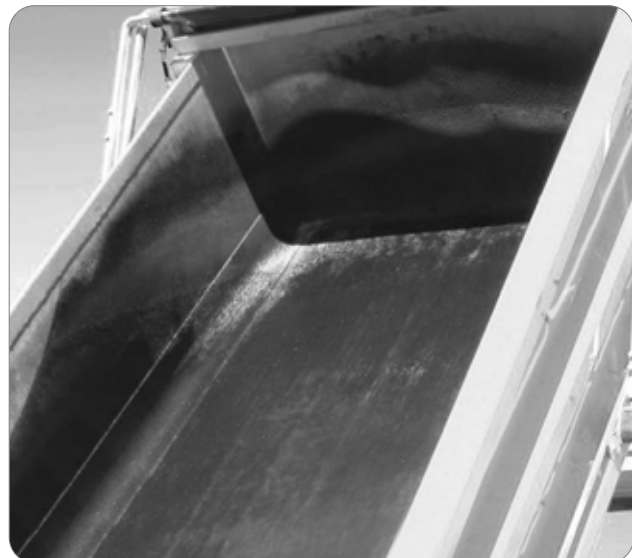
Selection guide	steel 400HB	steel 450HB	steel 500HB
Wear resistance	✓✓	✓✓✓	✓✓✓
Weldability	✓✓✓	✓✓	✓
Cold forming capacity	✓✓	✓✓	✓
Hot forming capacity	-	-	-
Machinability	✓✓	✓	-
Toughness	✓✓	✓✓	-
✓✓✓very good ✓✓good ✓satisfactory - not advisable			



Complete wear plates or cutouts

## Plates cut to any shape

Available widths from 4mm (0,16") to 160mm (6,3")

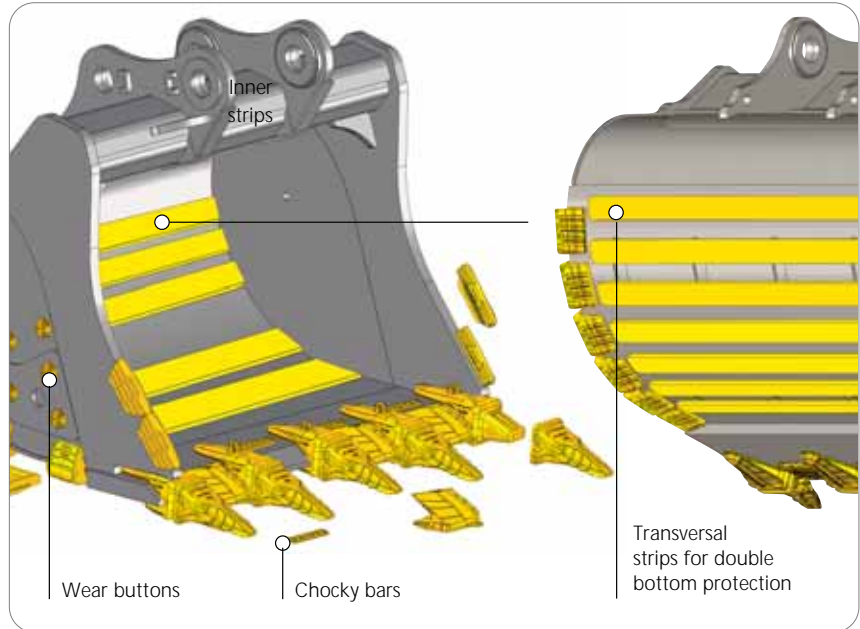


# Mining Buckets

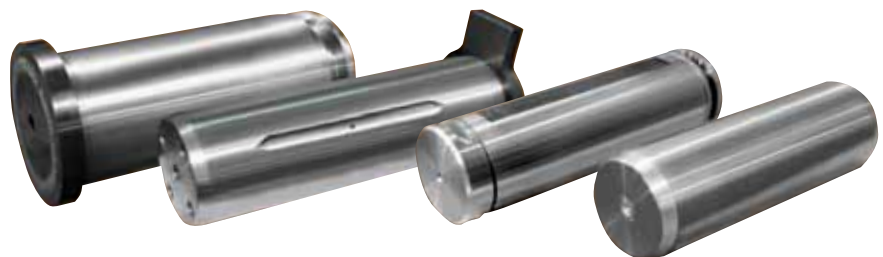
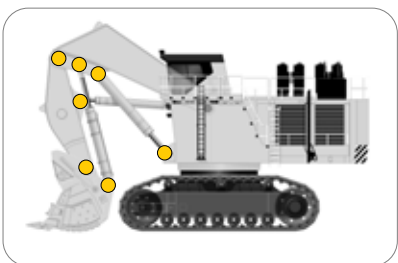
## HDVX

Buckets designed for heavy duty, it can withstand huge penetration stresses and it is suitable for extreme strains as in quarry works, demolition, excavation and loading of highly abrasive materials.

It is manufactured with thicknesses, reinforcements and components suitable to increase its sturdiness and durability, employing additional internal and external reinforcing bands on the bottom on the in and outside, and with the addition of inserts made of hard composite material having 700 HB hardness on the sides and on the blades.



# Pins and bushings





# Fasteners for mining equipment

## Fasteners quality 12.9

### Higher head

Heads 20% higher than American Standard B 18.2.1. Higher heads mean longer wear life and maximum holding for the nut



### SAE grade marks

The radial marks indicate the grade of SAE strength for better identification. Six marks on the head guarantee the quality grade 12.9 / 35-38 Rockwell (113/124 Kg./mm<sup>2</sup>)



### Forged head

Provides a correct flow of the steel fibre reducing the fatigue points ensuring major resistance to bumps and an even distribution of the weight. The edges do not round off and the bolts can be reused. The washer sits perfectly below the head.

### Laminated Thread

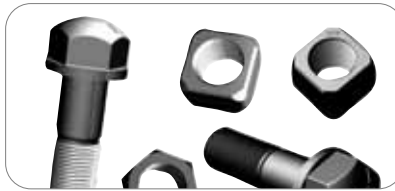
Laminated with the maximum precision BYG bolts and nuts provide a strong hold eliminating the risk of breakage.

### Fine Grade Steel

The fine grade steel provides an even microstructure improving resistance and with a lower percentage of breakage.

### Complete Fastening System

For better assurance and to get the maximum resistance and duration use BYG HD nuts and washers in combination with BYG fasteners.



BYG standard fasteners meet or exceed the requirements ISO 12.9:

- Pretensile strength 120.000 lb/pulg<sup>2</sup>
- Elastic load limit 150.000lb/pulg<sup>2</sup>
- Hardness (hexagonal fasteners): 33 to 39 Rockwell C
- Hardness (plow and track bolts): 37 to 42 Rockwell C

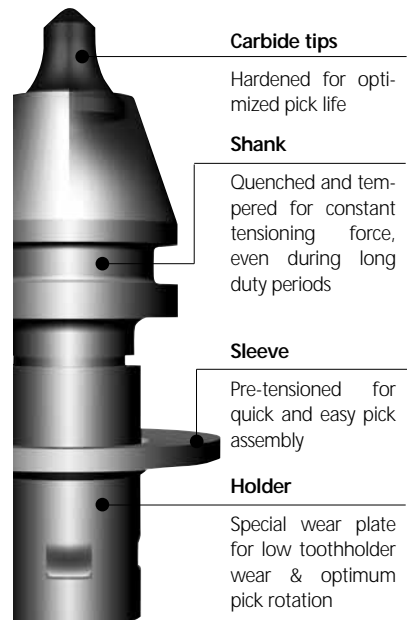
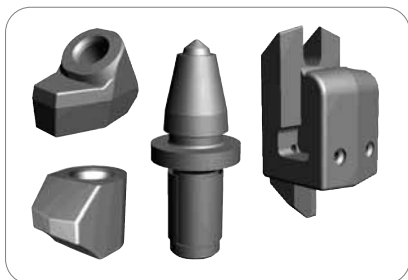
# Carbide cutting tools

BYG offers carbide tools for Roadheaders and mining equipment.

BYG has invested in this line to complete the product range offered to a growing number of clients.

BYG carbide tools are manufactured for both domestic and export markets.

All BYG cutting tools are presented with a practical packaging for transportation.





**Brandt**

1-888-227-2638  
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**Futura**  
MINING