VBS
CBK

CBK ENGINEERS

Wear Plates Manufacturer

GRADES

CBK WEARPLATE GRADES

Alloy Elements

Gradewise Wearplate types

No.	Alloy Elements Grades	C	Mn	Si	Mo	Cr	Nb	V	W	B	Rc	Temp
	Abrasion Resistantant And Mild Impact Resistantant											
1	**CBK ECO**	●	●	●		●				●	55-58	100°C
	Abrasion Resistant and Mild Impact Resistant											
2	**CBK STD**	●	●	●		●				●	58-60	100°C
	Heavy Abrasion with Little Impact											
3	**CBK 1**	●	●	●		●				●	58-62	100°C
	Primary Carbide & Secondary Carbides for Sevier Abrasion Resistance											
4	**CBK 1 Plus**	●	●	●		●				●	58-62	100°C
	Primary Carbides & Secondary Carbides for Sevier Abrasion Resistance											
5	**CBK 5**	●	●	●		●				●	58-62	300°C
	Primary Carbide & Secondary Carbides for Sevier Abrasion Resistance uo to 400°C											
6	**CBK 5S**	●	●	●	●	●				●	58-62	400°C
	Abrasion Resistance for Fans in High Temperature											
7	**CBK Ni**	●	●	●	●	●	Ni-●				55	350°C
	Complex Carbides of Chromium and Niobium											
8	**CBK 14**	●	●	●	●	●	●				60-64	600°C
	Complex Carbide of Chromium ,Niobium, Vanadium, Tungsten, Molybdenum											
9	**CBK 23**	●	●	●	●	●	●	●	●		60-65	750°C
	Boron Carbide Extreme Abrasion Resistance											
10	**CBK B CARB**	●	●	●		●				●	61-64	
	Titanium Carbide for Impact Resistance											
11	**CBK Ti**	●	●	●	●	●	Ti-●			●	56-58	
	Extreme Sliding Abrasion Resistance											
12	**CBK V CARB**		●	●	●		●		●		62-64	
	Tungsten Carbide											
13	**CBK W CARB**		●	●	●					●	60-65	

CBK Supply wearplate as per metallurgical specification also




BASIC FEATURES

BASIC FEATURES

POWDER FUSION WELDING PROCESS

1. Minimum dilution with base metal.
2. Minimum penetration with base metal from 0.5 mm to 1mm
3. Uniform distribution of carbides throughout the thickness, of deposit from fusion line to the top surface.
4. Uniform hardness throughout the thickness.
5. Selection of different alloys to suit your application.
6. Uniform thickness of weld deposit throughout the surface area.

FABRICATION OF PLATES

- **Radius** larger than **125 mm** with **inside** overlay
- **Radius** larger than **500 mm** with **outside** overlay

PLATE SIZE RANGE

1350 mm x 3000 mm | 1150 mm x 2400 mm

DEPOSIT THICKNESS SIZE RANGE

3 mm | 4 mm | 5 mm | 6 mm | 8 mm

BASE PLATE THICKNESS SIZE RANGE

5 mm | 6 mm | 8 mm | 10 mm | 12 mm

PIPE DIAMETERS

min. **300 mm** with **8+4 Size**
& **weld deposit** from inside.

SINE WAVE WELD DEPOSIT PLATES

also can be supplied.

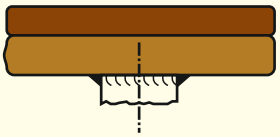
CUSTOMISED WEAR PLATES

in various deposit thickness and base plate thickness can be supplied.

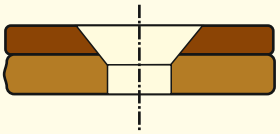
WELD DEPOSIT

from both sides of the mild-steel base plate can be supplied as per the requirements of the customers.

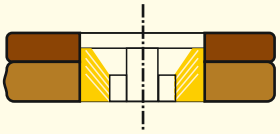
FIXING METHODS



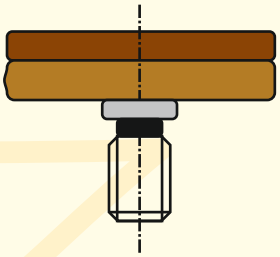
Welding to base metal



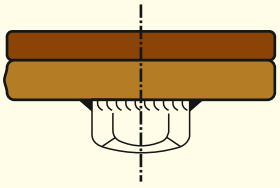
CSK holes by spark erosion
Insertion of holes by plasma cutting.



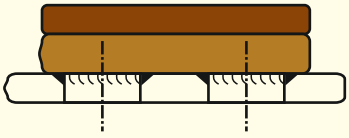
Welding in of CSK hole ring



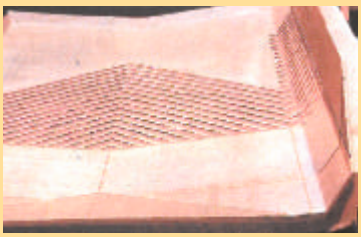
Welding on of studs.



Welding of a nut with internal thread in to base materials



Welding through holes.



MICROSTRUCTURE

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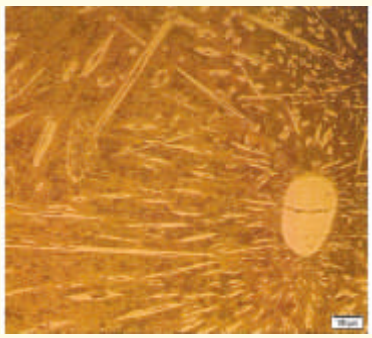
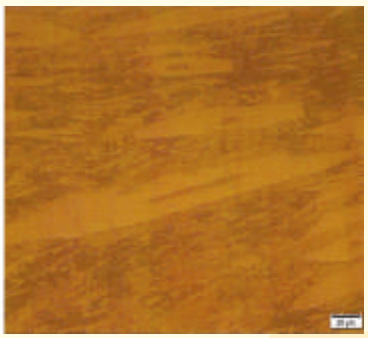
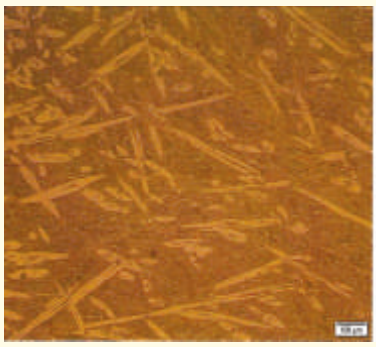
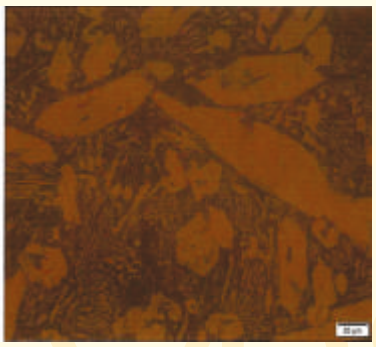



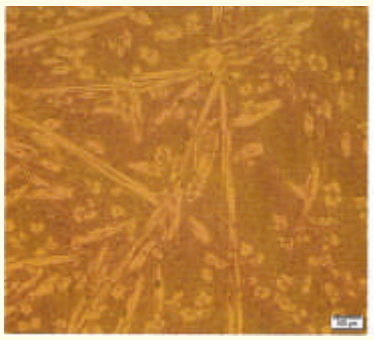
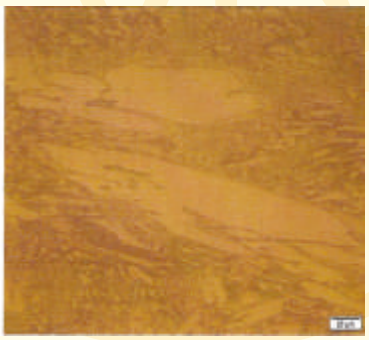
CBK ECO

Etchant : FeCl3
Magnification : 100X, 500X
Hardness : 55 to 58 Hrc
Observation :
Structure consists of spheroidal, angular and rod shape carbides in martensite matrix. Martensite seems to be tempered.
Primary carbide : (angular/rod shape) - 25%
Secondary carbide : (spheroidal) - 37%

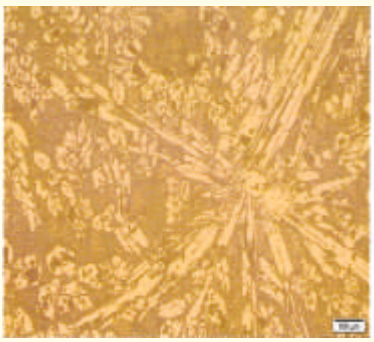
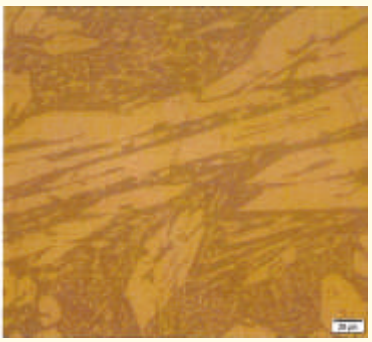
CBK STD

Etchant : FeCl3
Magnification : 100X, 500X
Hardness : 58 to 62 Hrc
Observation :
Structure consists of spheroidal, angular and rod shape carbides in martensite matrix. Martensite seems to be tempered.
Primary carbide : (angular/rod shape) - 25%
Secondary carbide : (spheroidal) - 35%

CBK 1

Etchant : FeCl3
Magnification : 100X, 500X
Hardness : 58 to 65 Hrc
Observation :
Structure consists of spheroidal, angular and rod shape carbides in martensite matrix. Martensite seems to be tempered.
Primary carbide : (angular/rod shape) - 35%
Secondary carbide : (spheroidal) - 32%

CBK 1 PLUS

Etchant : FeCl3
Magnification : 100X, 500X
Hardness : 58 to 65 Hrc
Observation :
Structure consists of spheroidal, angular and rod shape carbides in martensite matrix. Martensite seems to be tempered.
Primary carbide : (angular/rod shape) - 25%
Secondary carbide : (spheroidal) - 35%


APPLICATION

WEAR PLATE'S AREAS OF AAPLICATION

INDUSTRY **CEMENT PLANT**

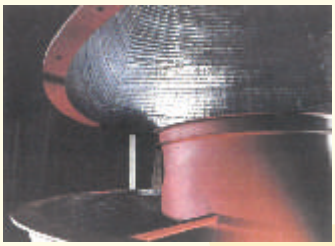
Raw Material Extraction
- Dredger
- Earth Moving Loders
- Shovel Knife
- Lorry Charging Platform

Raw Material Crushing
- Chuets
- Elevator Transfer Ponits
- Raw Material Silo - Grab
- Rake Arms

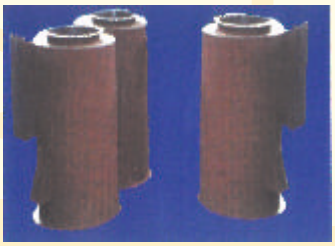
Grinding, Drying, Upgrading Of Raw Material
- Transport Elevator - Transfer Points
- Louvered Dividing Wall
- Ball Mill Inlet & Out Let
- Air Chamber Ring
- Shifter
- Dust Exhaust Fans

Burning Of The Raw Material For The Production Of Clinker
- Air Chamber Ring
- Shifter
- Clinker Chute
- Transfer Points
- Clinker Silo
- Dust - Exaust Fan
- Cyclone

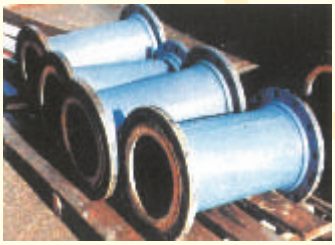
Grinding Of The Clinker & Loding
- Silo Outlet
- Inlet & Outlet
- Air Chamber Ring
- Fixed Shifter
- Shifter Blades
- Transfer Points


Cyclone

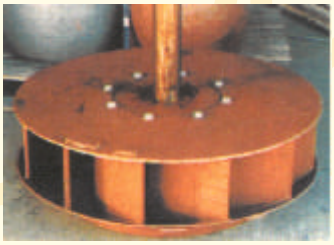

Cyclone


Fan Casing


Fan Outer Casing


Pipes


Pipes


ID Fan


ID Fan Casing

INDUSTRY **ORE PROCESSING**

- Transfer Chutes
- Skirt Liners
- Bin Liners I.e Surge, Hopper, Reject
- Deflector Liners Loading & Unloading Chutes
- Reclaimer Liners
- Vibratory Feeder Liners
- Train Loading & Unloading Chute Liners
- Flop Gate Liners
- Plough Blades
- Crusher Liners
- Washer Pipe Work, Spools, Reducers & Bands
- Screen Plates

APPLICATION

WEAR PLATE'S AREAS OF AAPLICATION

INDUSTRY **STEEL**

The Stages Of Sinter Production
Ore Loading & Mixing Bed
- Ore Loading Grab
- Scooplift Bucket
- Mixing Bed Bucket Wheel

Proportioning Bunker Plant
- Propotioning Bunker
- Outlet Funnel
- Dicharge Chute

Mixing Drum
Turning Blade
Sinter Conveyor
- Feeder Roller
- Suction Box
- De-dusting Pipeline
- De-dusting Van
- Van Housing

Gas Cleaning
- Bischof-gas Cleaning Cone
- Cracking House

Hot Screening Grain Size Under 5mm
- Hot Screen
- Discharge Chute
- Sinter Cooler

Sintering Cooler
- Discharge Chute
- Dedusting Van
- Van Housing

Cold Screening
Remain Grain Screen
Cold Screening Section
- Sinter Bunker
- Final Sinter Screens
- Re-screening
- Discharge Chute

Casting Houses (Dedusting)
- Van
- Van Housing

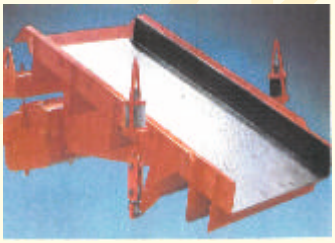
The Stages Of Blast Furnace
Mixture Of Ores
- Coke Sinter Ore Aggregate Day Bunker
- Final Screening
- Discharge Chute

Convertor
- Chutes + Pipelines
- For Materials
- For Alloying Ores, Scrapers

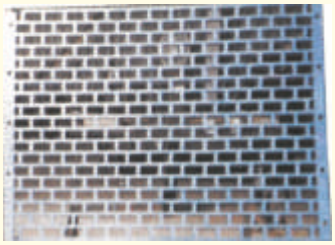
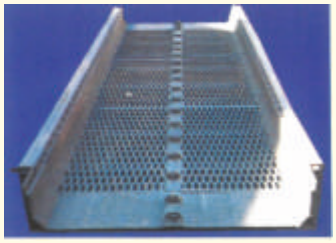
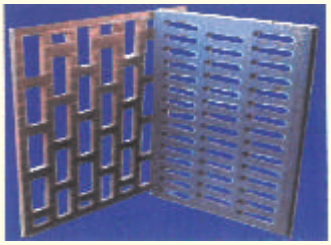
Blast Furnace Loading
- Skip Hoist
- Hunt Or Skip
- Hunt-ground
- Hunt Side Panel

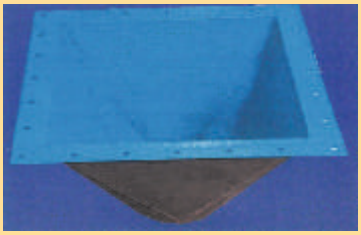
Blast Furnace Closers
Furnace Top Bell Closers
- Burden Bunker
- Big Furnace Top Bell
- Movable Protection Shell

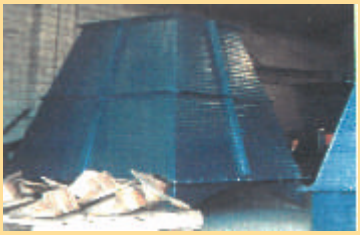
Non-bell Closers
(paul-worth Chute Or Bell Less Top)
- Tranportable Conveyers
- Chute
- Inflow Funnel
- Material Flap
- Central Pipeline
- Distribution Chute
- Hard Protection Shell
- Throt Armour Plates




VIBRATORY FEEDERS




APPLICATION

WEAR PLATE'S AREAS OF AAPLICATION

INDUSTRY COAL PREPARATION

- Transfer Chutes
- Loading & Unloading Chutes
- Bin Liners I.e Surge, Hopper, Reject Mill Skirt Liners
- Deflector Liners
- Flop Gate Liners
- Washer Pipework
- Plough Blades Reclaimer Liners
- Spools
- Crusher Liners
- Train Loading & Unloading Chute Liners
- Vibratory Feeder Liners
- Screen Plates
- Spiral Plates
- Spiral Chutes Reducers & Bends

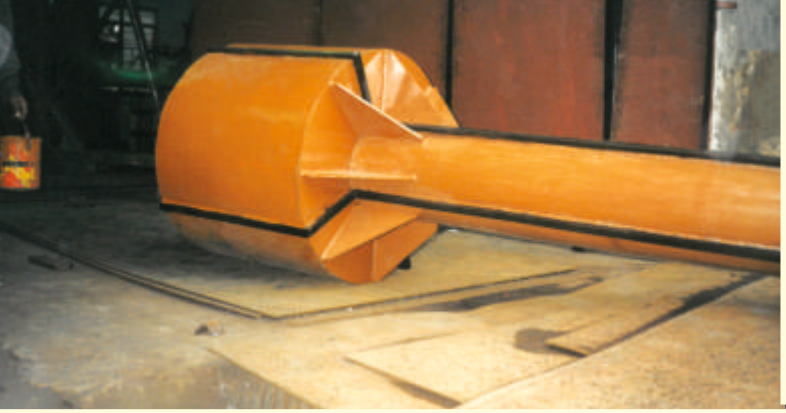
INDUSTRY POWER PLANT

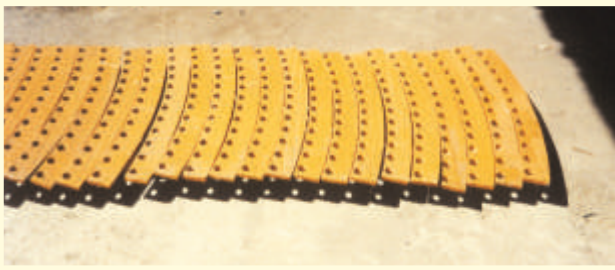
Boiler Maintenance

- I.D. Fan / P.A. Fan
- Coal Mill Wear Plates (detectors)
- Coal Feeders
- Coal Mill Venturies
- Scraper Blades
- Coal Mill Cones
- Orifices, Rollers
- Ash Pump Impellers & Casings
- Coal Mill Bends
- Multiple Port Outlets

Coal Handling Plant

- Bar Crusher Starter Plate Assembly
- Various Chutes
- Bull Dozer Tipes & Buckets
- Coal Mill Rings





CBK ENGINEERS

Wear Plates Manufacturer

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