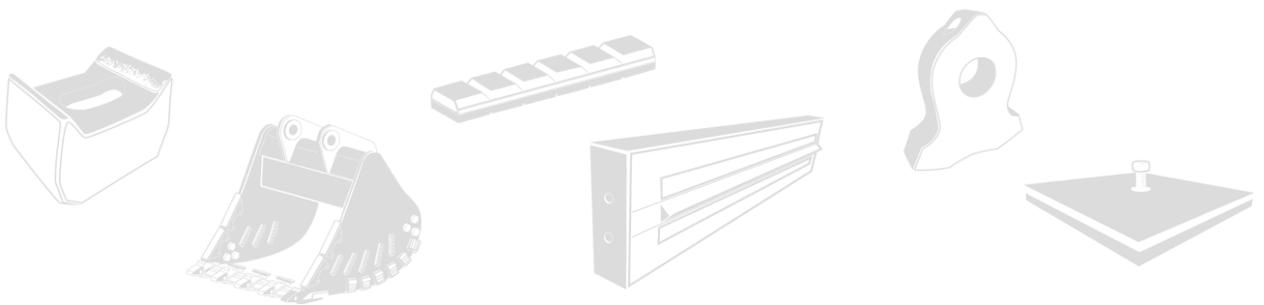
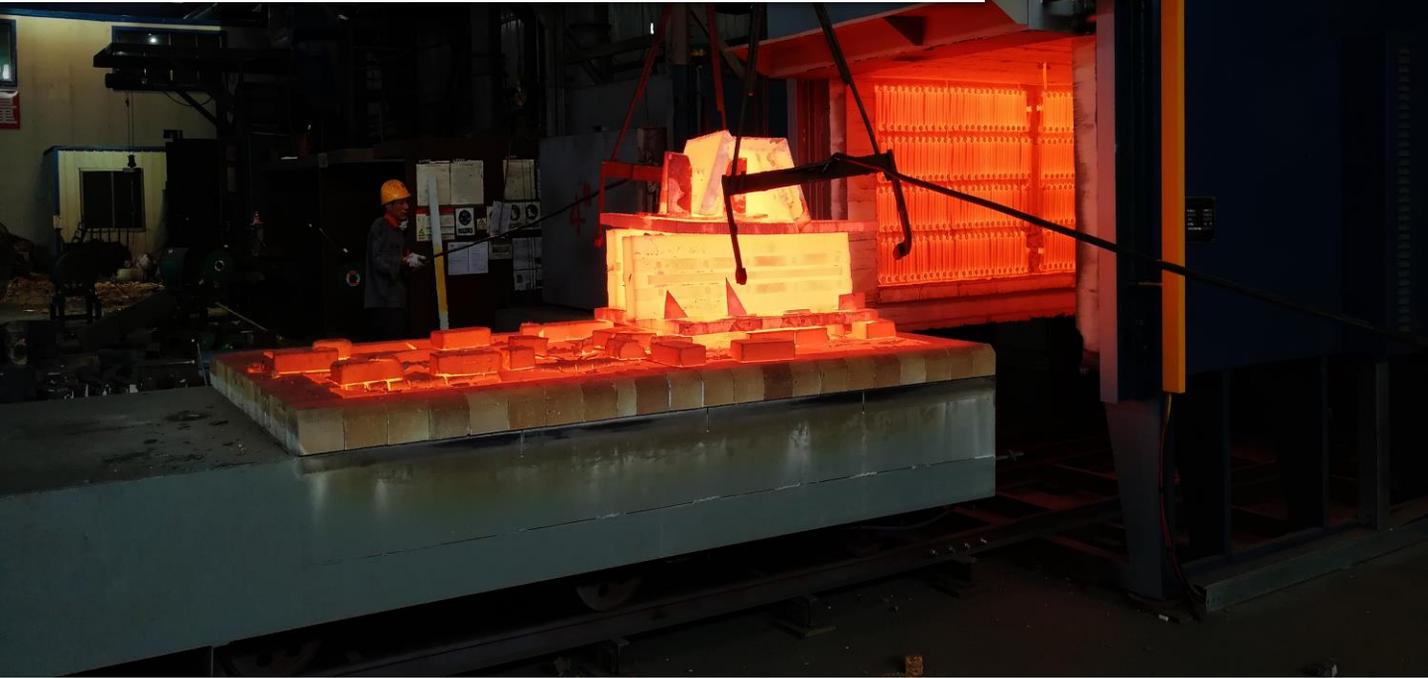


Wear Parts For Less Downtime



A foundry has both MMC and Bimetal composite technologies



Sunwill Machinery Co.,Ltd was started by several metal specialists who have been dedicated to the wear resistant metal materials for decades. The company is located in Changsha, Hunan province where is the manufacturing hub for machinery and heavy construction equipment in the world.

From wear problem to wear solutions, Sunwill is not only supplying the normal replacement wear parts on the equipment in Quarry, Mining, Cement and Construction industries, and moreover Sunwill is analyzing the wear problem for specific cases and develop the more wear-resistant solutions to help decreasing the down-time of equipment, with its two major advanced technologies below:

- **Metal Matrix Composite (MMC) Technology**
- **Bimetallic Composite Technology**

All in all, **Making the wear parts last longer**, the equipment run more efficiently and the operating cost downwards is the unchanging pursuit of the company.



SUNWILL WEAR SOLUTIONS

- Metal Matrix Composite (MMC) – Ceramic or carbides Insert Solutions
- Bimetallic Composite Solutions

Industry	Equipment	Wear Parts Portfolio
Quarry	Impact Crusher	Blow Bars, Impact Plates, Side Liners
	Hammer Crusher	Hammers
	Excavator	Whole Bimetallic Wear Package
	VSI Crusher	Anvils, Impellers
Mining	Impact Crusher	Blow Bars, Impact Plates, Side Liners
	Excavator, Dragline	Whole Bimetallic Wear Package
	Ball Mill	Liners, Feeder Chute Liners
	Chute	Wear Plates, Wear Bars
Cement Plant	Hammer Crusher	Hammers
	Excavator	Whole Bimetallic Wear Package
	Ball Mill	Liners, Feeder Chute Liners
	Chute	Wear Plates, Wear Bars
Demolition	Impact Crusher	Blow Bars, Impact Plates, Side Liners
	Excavator	Whole Bimetallic Wear Package
Metal Recycling	Metal Shredder	Hammers
Sugar Mill	Cane Shredder	Hammers and Tips, Wear Liners
Wood Industry	Wood Hog/Shredder	Hammers and Tips, Wear Liners

* For equipment not in above list, please contact us for a customized wear solution.



Blow bar is a crucial wear part on impact crusher. The good blow bars and right material options are so important to keep the crusher running safely and cost efficiently.

Sunwill not only manufacture and supply versatile options for blow bars of many brands, also assist customers choosing the right option for right applications based on our long term experience in this industry.

Following is the materials we have for blow bars:

- ✓ **Manganese Steel**
- ✓ **Martensitic Steel**
- ✓ **Chrome White Iron**
- ✓ **Other Materials** - *Customized Materials Available*
- ✓ **Manganese+Ceramic or Tic** - *Extended Life*
- ✓ **Martensitic Steel+Ceramic** - *Extended Life*
- ✓ **Chrome+Ceramic** - *Extended Life*





**Up to 100% lifetime has extended
With Metal Matrix Composite Technology**



No one type of material is able to suit all impact crushing applications. It is very important to choose the right material for blow bar for the right application.

Following is the general guidance for the material selection:

Material Option	Wear Resistance	Impact Resistance	Typical Applications	Feeding Of Unbreakable Objects
Manganese Steel	Relatively Low	High	Very large feed size low-abrasiveness stones e.g. limestones.	High proportion of unbreakable objects (e.g. iron) is allowed
Manganese+TIC	TIC inserts increase wear resistance of pure manganese blow bars	High	Same as above	Same as above
Martensitic Steel	Medium	Medium	Large to medium feed size. Building concrete and rubbles; asphalt, limestones, nature stones	Steel rebars in concrete or a little content of unbreakable objects is allowed.
Martensitic+Ceramic	Ceramic inserts increase wear resistance of pure martensitic blow bars	Medium	Same as above	Same as above
High Chrome	High	Low	Small feed size (normally <350mm) secondary crushing of nature stones, gravels, asphalt.	Any rebars or unbreakable objects is not allowed
High Chrome+Ceramic	Ceramic inserts increase wear resistance of pure chrome blow bars	Low	Same as above	Same as above



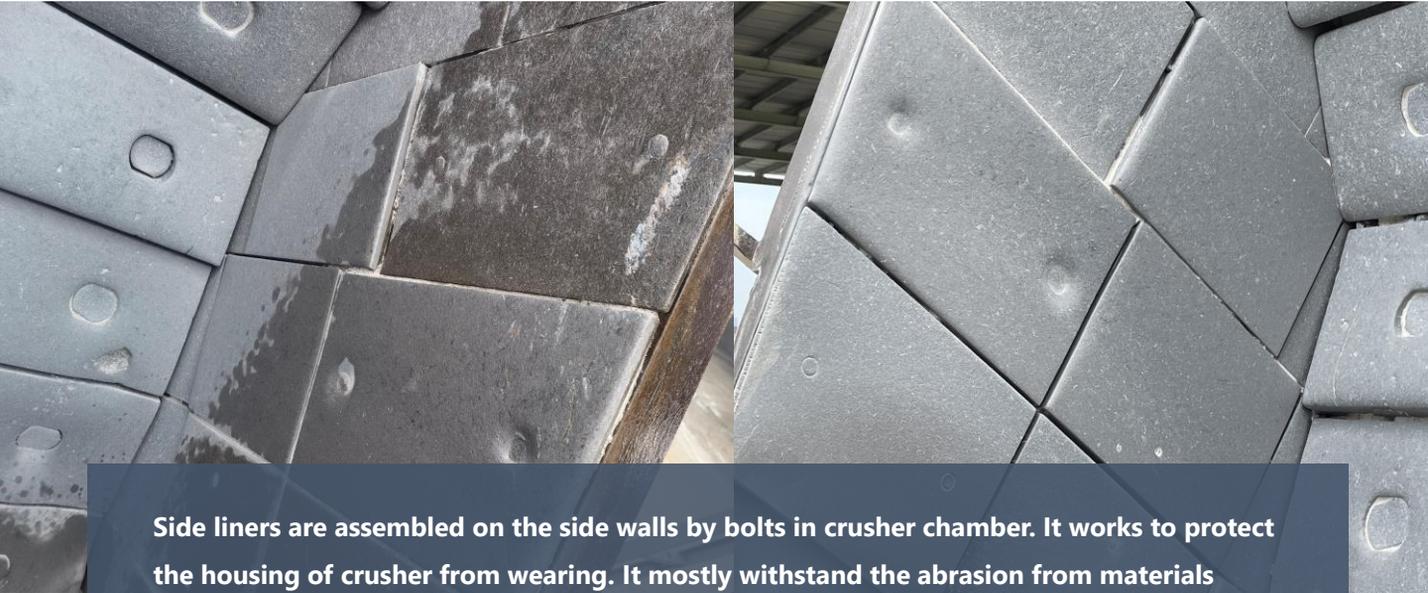
Impact plates are stationarily assembled on the aprons on impact crushers and are used to receive the materials that hit from the blow bars.

Due to the severe wear and impact during the crushing process, the impact plates are also the most frequently changed wear parts in impact crusher.

Following is the material options that Sunwill make for the Impact plates:

- ✓ **Manganese Steel**
- ✓ **Martensitic Steel**
- ✓ **Chrome White Iron**
- ✓ **Martensitic + Ceramic**

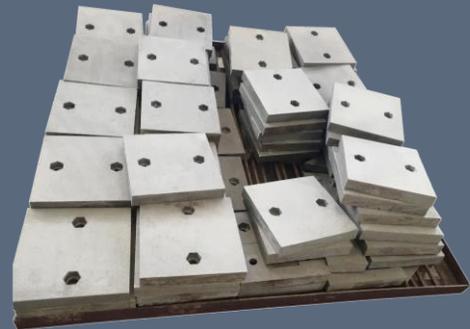




Side liners are assembled on the side walls by bolts in crusher chamber. It works to protect the housing of crusher from wearing. It mostly withstand the abrasion from materials during crushing. The liners around the rotor areas usually suffer the severest wearing so that need frequently replaced.

Sunwill supply the side liners with following options to suit different applications:

- ✓ Alloy Steel
- ✓ Manganese Steel
- ✓ Martensitic Steel
- ✓ Chrome White Iron
- ✓ Bimetallic Composite - *Extended Life*



BIMETALLIC COMPOSITE SIDE LINER

is a special wear liner developed by Sunwill. The wear face is high chrome white iron which is very wear resistant and backed up by steel plate which has very good impact resistance. Wear life of this composite liner is largely extended at the mean time the safety is not compromised.

Mild Steel Backup



High Chrome Wear Face
Hardness: HB700+



Hammer crushers are normally used to crush the limestones in Cement plants and Quarry plants. Hammers are the key wear parts to impact the stones into smaller sizes. Sunwill manufacture the hammers in following options to suit the limestone crushing:

- ✓ **Manganese +TIC or Ceramic** - *Extended Life*
- ✓ **Martensitic Steel**
- ✓ **Martensitic Steel + Ceramic** - *Extended Life*
- ✓ **Bimetallic Chrome White Iron** - *Extended Life*
- ✓ **Bimetallic Chrome + Ceramic** - *Extended Life*

The hammer heads are always small cubic shape and used to crush stones in small size or bricks in construction industry. Options of materials are below:

- ✓ **Chrome White Iron**
- ✓ **Chrome White Iron + Ceramic**
- Extended Life



METAL SHREDDER PARTS - HAMMERS

Metal shredders are machines widely used in scrap yards or metal recycling plants to shred the metal scraps into smaller shapes and sizes. It mainly consists of shredder housing, rotor and hammers.

As the feed is metal or steel objects, the hammers have to withstand extremely harsh scratch and also impact force from the scraps. The hammer must have good strength at the handle area to provide good impact resistance for hammer, and in the mean time good wear resistance is required at the wear areas.

Sunwill can supply the hammers for metal shredder with following options:



Manganese Steel



Bistruct® Alloy Steel - *Extended Life*



High Strength

Hardness: HB350-400

Yield Strength > 900MPa

High Hardness

Hardness: HB550+





Cane shredders are machines used in sugar cane mills to shred the sugar canes before the processing of sugar extraction.

A cane shredder normally consists of shredder housing, rotor including rotor discs, hammers and replaceable hammers tips.

Sunwill can supply the hammers and replaceable tips for cane shredder with following options:



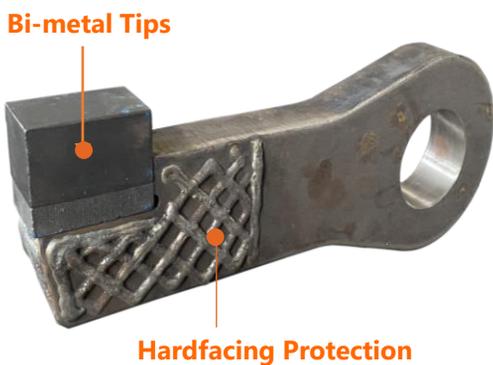
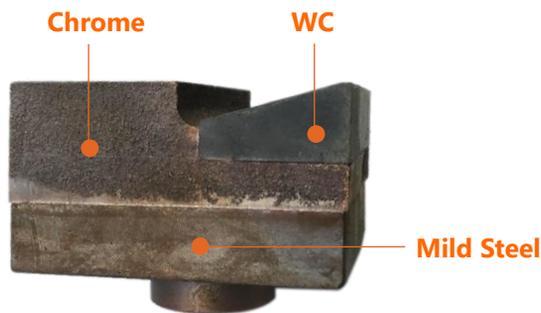
Alloy Steel Hammers



Bi-metal Hammer Tips



Tribond Hammer Tips





The woods hog or hammer mill is a type of machines widely used in the paper plants, sawmills, wood yards and other wood products plants to reduce the size of wood and barks for preparation of next process. It mainly consists of housing, shaft, rotor and other accessories. Hammers including tips are the main wear parts on the machine and Sunwill can supply them with the following options for materials:



Alloy Steel



Alloy Steel with Tungsten Carbide Hardfacing

- Extended Life

**Tungsten Carbide Grits
Hardfacing Enhancement**
up to **300%** life time



**Tungsten Carbide Powder
Hardfacing Enhancement**

Up to **200%** life time



The Vertical Shaft Impact (VSI), also called Sand-making machine, is widely used to process the stones into sands. Anvils and Impellers are the main wear parts on this machine. As the processed stones are always very hard with a high content of silicon, the wear parts are withstanding severe wearing during the crushing process.

Besides the ordinary anvils and impellers, Sunwill also make the both parts with ceramic inserts at the weak areas to prolong the wear life of parts so reduce the downtime of machine. Following is the options that Sunwill can supply:



Chrome White Iron



Chrome + Ceramic

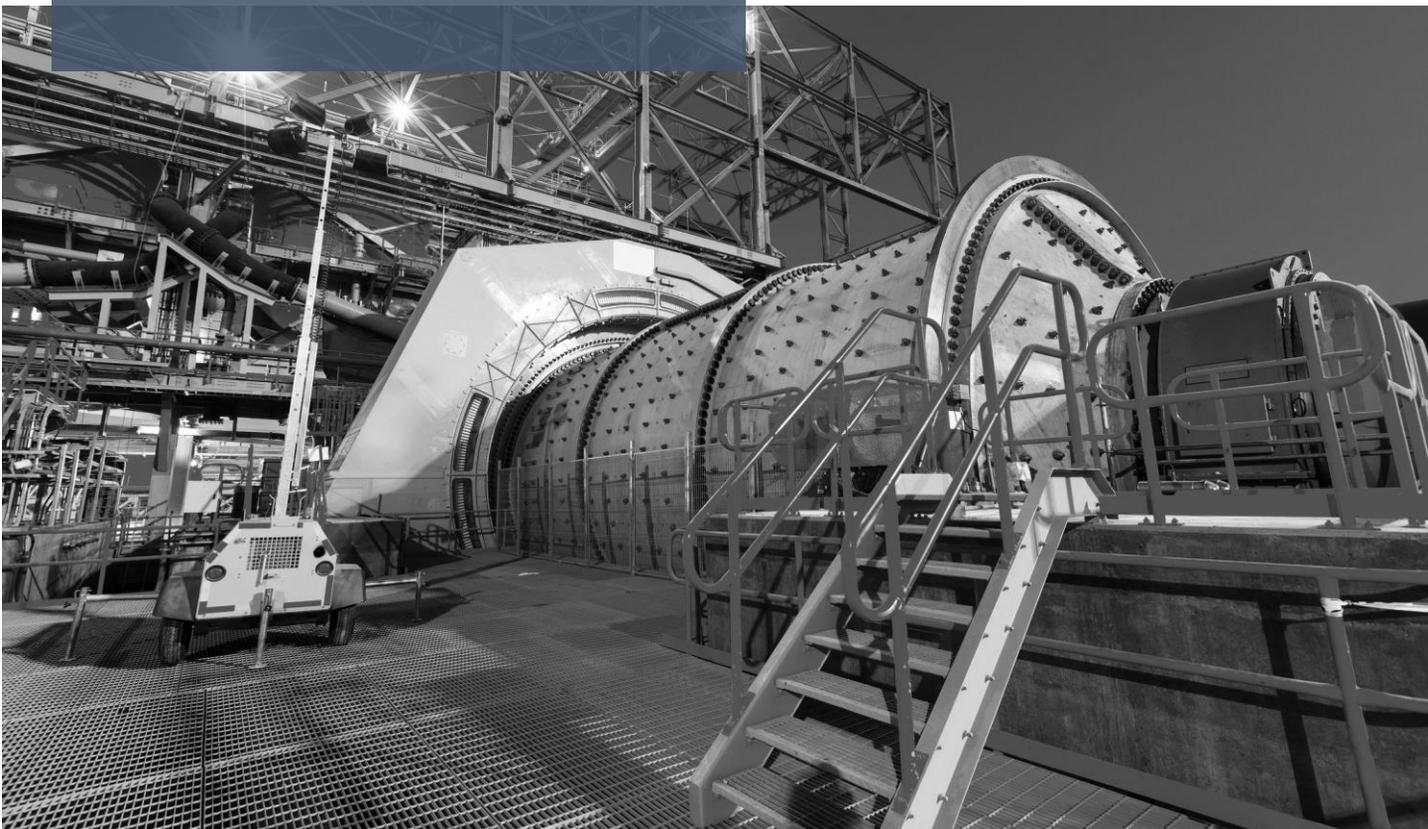
- Extended Life

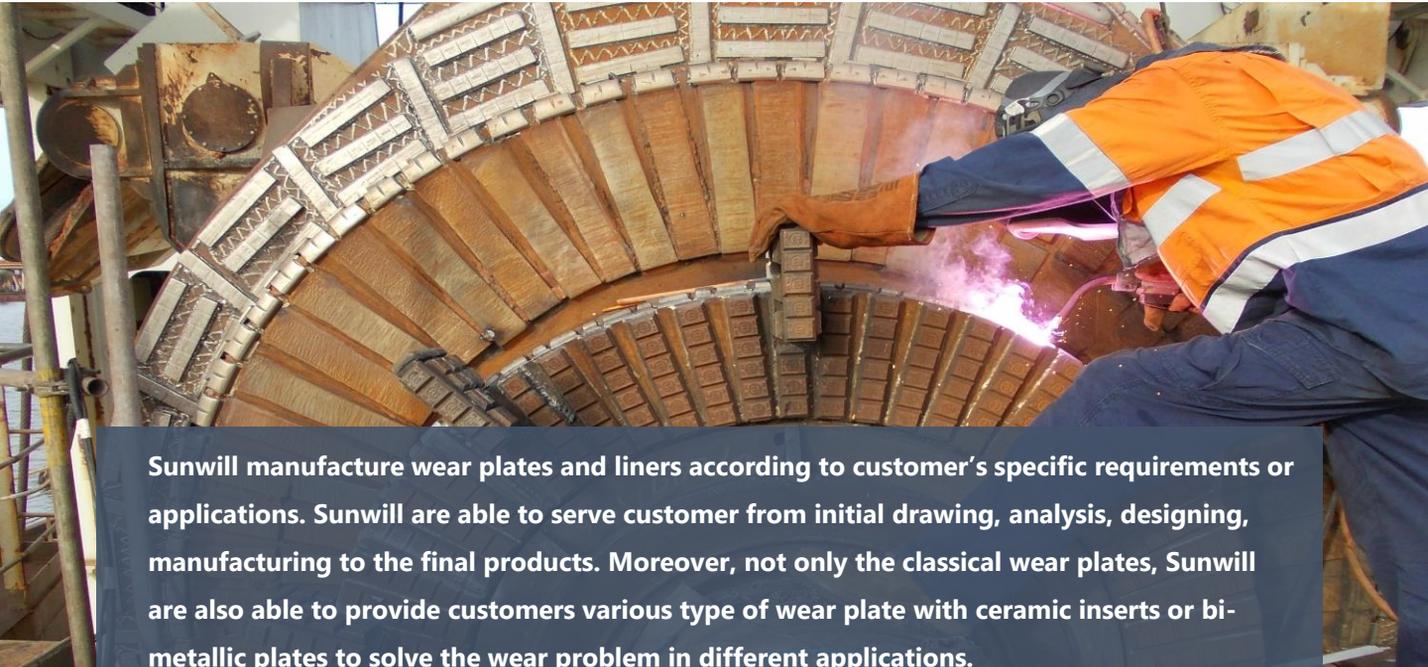


Ball mill is widely used in the Cement plant, Mining and Construction industry to grind the abundant materials into small or fine size.

Sunwill can supply the ball mill liners and feeder chute liners with below options for materials:

- ✓ **Alloy Steel** - *Ball mill liners*
- ✓ **Nihard** - *Ball mill liners*
- ✓ **Chrome White Iron** - *Feeder Chute liners*
- ✓ **Chrome White Iron with Ceramic**
- *Extended Life for feeder chute liner*





Sunwill manufacture wear plates and liners according to customer's specific requirements or applications. Sunwill are able to serve customer from initial drawing, analysis, designing, manufacturing to the final products. Moreover, not only the classical wear plates, Sunwill are also able to provide customers various type of wear plate with ceramic inserts or bi-metallic plates to solve the wear problem in different applications.

Sunwill have the following options for wear plates in details:

- Wear casting plates in Manganese steel, Martensitic steel, Alloy steel, Chrome white iron
- Wear casting plates with ceramic inserts (extended life)
- Bi-metal (chrome+mild steel) wear plates or liners (extended life)
- Other customized wear plates with ceramic inserts or bi-metal combined.



Ceramic Inserted Casting Plate



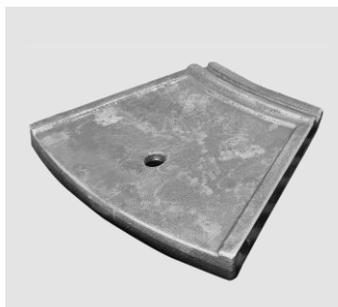
Bi-metal Wear Plate



Chrome White Iron Casting Plate



Bi-metal Wear Block



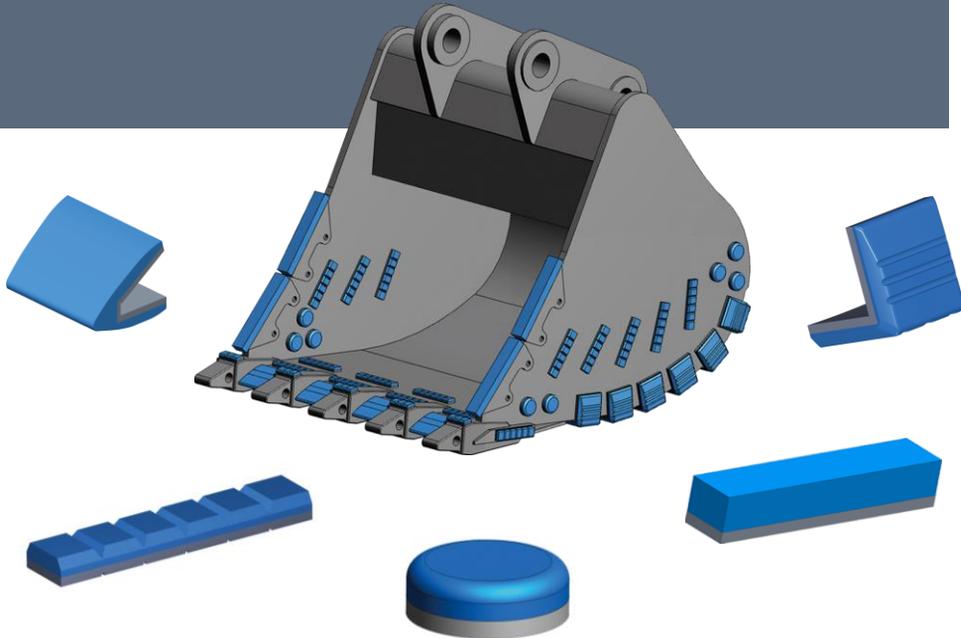
Alloy Steel Plate



Suit Most Applications
from high impact to extreme wear

WHOLE BIMETALLIC PROTECTION FOR BUCKETS

Sunwill has the whole bimetallic wear solution to protect the excavator bucket. The wear package including Chocky Bars, Wear Buttons, Wear Bars, Heel Shroud, Lip Shroud, Wing Shroud and Skid Bars will provide a comprehensive wear protection on the weak points on the buckets. With the whole protection solution, the service life of the bucket could be multiplied and maintenance is significantly reduced.



**Service cycle of bucket is
more than 300% increased**





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CAST WITH VALUE

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