

## Wear: The inside story

Your choice of wear plate has consequences for your business. HARDOX® maximises the wear performance of your products and machines, cutting the lead times in your workshop and increase the productivity of your operations. The service life of HARDOX is also very predictable. Due to its consistent properties, it performs the same every time.

Thanks to a combination of high hardness, strength and good toughness, HARDOX can be used in a variety of applications ranging from forest harvesting and ground preparation to asphaltting work. HARDOX is produced using high grade iron ore. It is this high-purity raw material that lays the foundations for good bendability and weldability properties. This is the foundation of HARDOX wear plate's outstanding hardness, toughness and workshop friendliness.

### Expertise at your service

In addition to plate, SSAB Oxelösund provides you with expertise. We share our knowledge with you through our technical managers, our CONCEPTUAL DESIGN GROUP™ or our WEAR TECHNOLOGY GROUP™.

We assign a Technical Manager to every customer. He or she is your primary contact for technical matters.

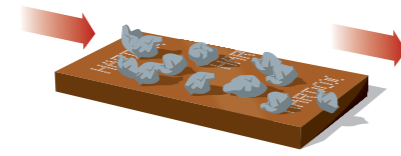
The Conceptual Design Group consists of experts that can help optimise your product from a design perspective.

The Wear Technology Group is committed to developing the technical knowledge of wear. We offer you access to Ph.D's, and experts with decades of experience in solving wear challenges. You get applied support and information on wear-critical components.

### Information about wear

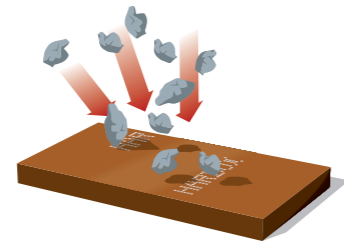
There are different kinds of wear situations and each has a different impact of the service life of the application. Sliding and impact wear occurs on many components. Occasionally the abrasive particles are forced to rotate in a gap between rigid surfaces causing a squeezing wear as well. There are substantial differences in wear from sliding and impacting as well as squeezing rocks. Each rock is composed of a unique set of minerals. These minerals, in contact with the plate, determines the type of wear. Therefore, each type of rock has a corresponding type of abrasive wear damage. WearCalc Software, which can be supplied by your technical manager, describes and calculates the relative differences between materials.

Whatever application and wear situation you have, HARDOX is your ticket to outstanding wear performance.



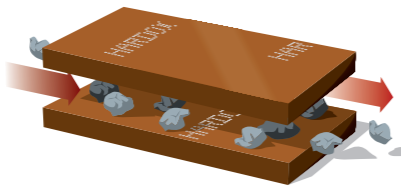
#### SLIDING

In sliding wear abrasive bodies like aggregate rock are free to slide and roll. By selecting a harder HARDOX grade, service life is often improved considerably.



#### IMPACT

In impact wear the aggregate rock hits the surface of the wear component at various angles. A harder grade of HARDOX will deliver a longer service life here as well. However the increase in service life is not of the same order as for sliding wear.



#### SQUEEZING

The improvement in service life of wear components subjected to squeezing wear is more difficult to quantify. However, an increased HARDOX plate hardness often improves the service life significantly.

### HARDOX — COMPLETE PRODUCT PROGRAM

No matter what your wear challenge is, you will find a HARDOX plate that is up to it. The wide range of hardness grades, thicknesses and widths enables you to always maximise the performance of your application.

**HARDOX 400 and HARDOX 450** are versatile wear plates with high toughness, good bendability and excellent weldability.

**HARDOX 500** is a tough, bendable and weldable abrasion resistant plate used in applications that require high wear resistance.

**HARDOX 550**, with a hardness of 550 Brinell and a toughness equal to HARDOX 500, is designed to increase wear life, but not at the expense of crack integrity.

**HARDOX 600** is the world's hardest wear plate for extreme conditions. It competes with materials like high chromium white alloy castings, Ni-hards and hardfacing.

**HARDOX HITuf** is a wear resistant plate with extra high toughness intended for heavy section wear parts where there are extra high demands on the combination of wear and crack resistance.

SSAB Oxelösund – a subsidiary of SSAB Swedish Steel Group – is the world's leading manufacturer of quenched and tempered heavy plate, marketed under the well known brand names of HARDOX® Wear Plate, WELDOX® Structural Steel Plate, ARMOX® Protection Plate and TOOLOX® Prehardened Tool & Machine Steel. The steels are characterised by the combination of high strength and toughness, derived from the clean steel composition and a unique production process.

SSAB Oxelösund focuses exclusively on developing quenched and tempered steels. With a strong local presence in more than 45 countries we provide our customers with high quality steel as well as commercial and technical support.

For more information, contact us or visit [www.ssabox.com](http://www.ssabox.com).

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**HARDOX®**  
WEAR PLATE

# HARDOX ON SITE Roadbuilding

A Part of Your Success



**SSAB**  
OXELÖSUND

# Breaking the ground for roadbuilding makes tough demands on machines and materials...



## ROAD BUILDING CYCLE

1. Hydraulic hammer
2. Excavator bucket
3. Bucket
4. Excavator bucket
5. Crusher
6. Bucket
7. Bucket
8. Asphalt Plant
9. Tipper (asphalt)
10. Tipper (gravel)
11. Bulldozer
12. Motor Grader
13. Asphalt Roller
14. Asphalt Paver
15. Tipper (asphalt)
16. Asphalt milling machine



### HYDRAULIC HAMMER

HARDOX 400/450 in the housing of the hydraulic hammer exposed to wear from rocks.



### EXCAVATOR BUCKET

HARDOX 450/500/550 in the excavator bucket. HARDOX may be used in the entire bucket or just in the cutting edge and sides depending on the wear situation.



### BUCKET

HARDOX 450/500/550 in the entire bucket or cutting edge and sides depending on the wear situation.



### CHUTE

In the chute that leads into the crusher HARDOX 500/550/600 is the obvious choice in the tough environment.



### CRUSHER

HARDOX 500/550 used as liner plates in the interior in areas with high wear.



### ASPHALT PLANT

HARDOX 450/500/550 as liner plates and in gravel chutes. HARDOX 450/500 in the wings of the drum. HARDOX 450/500 in the transport container from the drum to the truck delivery shaft.



### TIPPER BODY

HARDOX 450/500 in the body of the tippers & dumpers. HARDOX is an outstanding wear fighter in these applications. HARDOX also has great impact resistance, making it an excellent design solution.



### BULLDOZER

HARDOX 450/500/550 in the blade of the bulldozer.



### MOTOR GRADER

HARDOX 450/500/550 in the blades of the motor grader.



### ASPHALT PAVER

HARDOX 450/500/550 in the screed plates.