

Wear: The inside story

Your choice of wear plate has consequences for your business. Hardox® maximizes the wear performance of your equipment and machines, reducing workshop lead times and increasing the overall productivity of your operations.

Thanks to its consistent properties, Hardox's performance remains invariable across its lifetime. That also makes its service life very predictable, allowing you to rationalize your repair schedule.

With its combination of high hardness, high strength and good toughness, Hardox can be used in a variety of applications, including loading, transport and crushing in mining.

What's the secret of Hardox's top performance? The production processes include the state-of-the-art metallurgical cleaning of steel and a unique hardening process, resulting in wear plates with outstanding hardness, toughness and workshop friendliness.

Expertise at your service

In addition to plate, SSAB provides you with expertise. We share our knowledge with you through our Technical Support.

The Technical Support consists of experts that can help optimize your product from a design perspective and 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 can get applied support and information on wear-critical components.

Information about wear

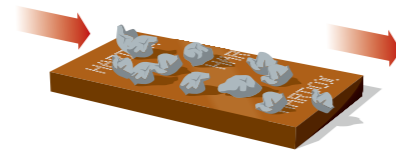
Wear comes in different forms and each has a different impact on the service life of your application.

The most common wear types are sliding wear and impact wear. Abrasive particles trapped in a narrow gap between two rigid surfaces causing squeezing wear is also a common wear type.

Each variety of rock is composed of a unique set of minerals and these also contribute to the specific type of abrasive wear damage.

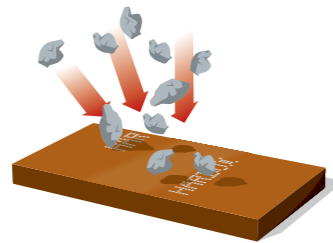
WearCalc software, available from our Technical Managers, describes and calculates the relative differences between materials. It allows you to predict relative wear life and compare different wear solutions.

Whatever your application and wear situation, Hardox is your ticket to outstanding wear performance.



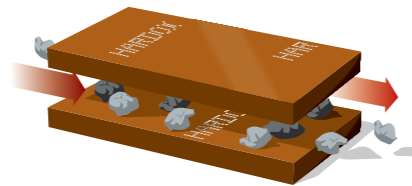
SLIDING

In sliding wear, abrasive bodies such as aggregate rocks are free to slide and roll. By selecting a harder Hardox grade, service life can be improved considerably.



IMPACT

In impact wear, the aggregate rocks hit the surface of the wear component at various angles. A harder grade of Hardox will deliver a longer service life here as well.



SQUEEZING

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

SSAB is a Nordic and US-based steel company. SSAB offers value added products and services developed in close cooperation with its customers to create a stronger, lighter and more sustainable world. SSAB has employees in over 50 countries. SSAB has production facilities in Sweden, Finland and the US. SSAB is listed on the NASDAQ OMX Nordic Exchange in Stockholm and has a secondary listing on the NASDAQ OMX in Helsinki. www.ssab.com.

HARDOX®
WEAR PLATE

HARDOX ON SITE

Underground Mine

A Part of Your Success

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Hardox – Complete product program

You'll always find a Hardox plate to fit your wear challenge. With a wide range of hardness grades, thicknesses and widths to choose from, you'll always be able to maximize your application's performance.

Hardox 400 and 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 requiring high 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 reduced resistance to cracking.

Hardox 600 has a hardness of 600 Brinell but can still be cut and welded—an excellent plate for high performance applications.

Hardox HiTuf is a wear resistant plate with extra high toughness intended for heavy section wear parts requiring extraordinary wear and crack resistance.

Hardox Extreme is intended for applications requiring extremely high abrasion resistance. It can replace costly wear products like hard-faced overlay plates and high chrome white iron. Despite its hardness, it can be welded, cut, milled and drilled using standard workshop practices.

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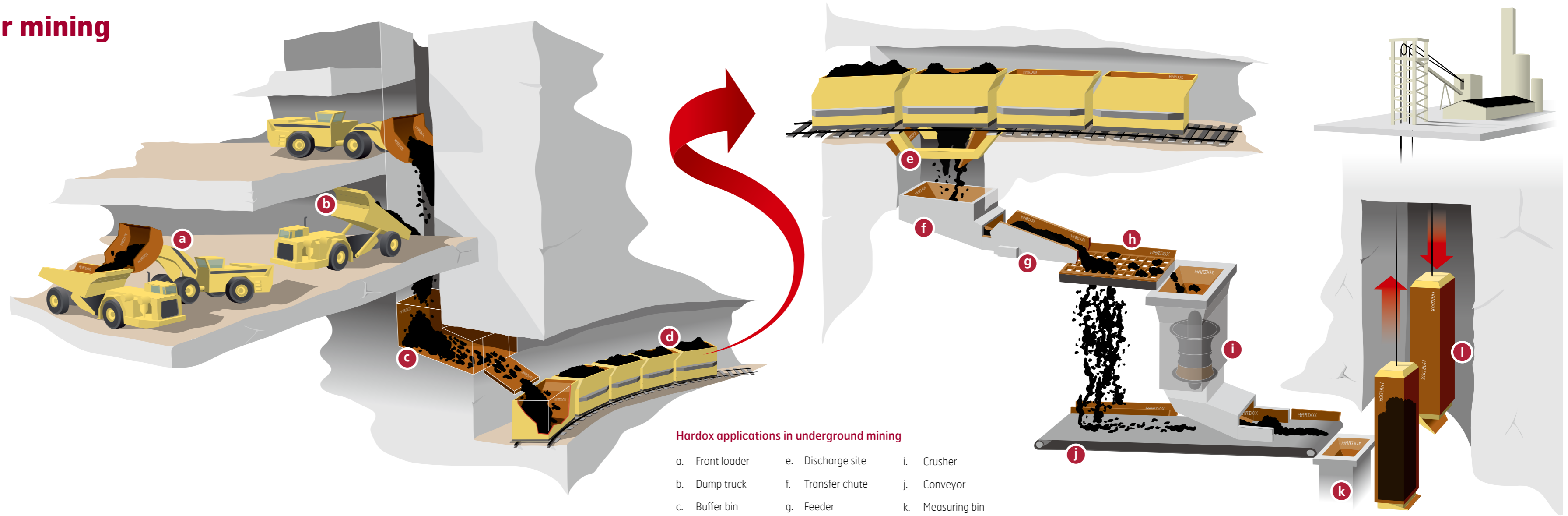
Down-to-earth advantages for mining

Mining operations put high demands on equipment. When it comes to abrasion resistance, compromise can be costly. Hardox® wear plate delivers unsurpassed advantages to the mining sector through out the whole production flow. This includes economic benefits that can make a significant difference in mining operations.

It starts with Hardox wear plate's superior wear resistance, translating to significant increases in the interval between repairs.

Hardox wear plate is the fast and flexible on-site solution. Its outstanding weldability and workshop-friendly properties allow it to be integrated easily into repair regimes, keeping production up and running. It also eliminates the need for a large stock of spare parts.

When it comes to design, the unique properties of Hardox wear plate take you beyond conventional thinking, allowing you to design in new levels of performance and cost-savings. For example, its superior strength allows a thinner plate to be used, lowering overall weight and enabling increased payloads and thus productivity.



Hardox applications in underground mining

- | | | |
|------------------|-------------------|------------------|
| a. Front loader | e. Discharge site | i. Crusher |
| b. Dump truck | f. Transfer chute | j. Conveyor |
| c. Buffer bin | g. Feeder | k. Measuring bin |
| d. Rail road car | h. Screener | l. Skip |



FRONT LOADER

Hardox 400/450 are used both as structural and wear plate for the LHD bucket. Wear parts on the bucket can be produced with Hardox 500/550.



DUMP TRUCK

Hardox enables the design of low weight bodies. Hardox 400/450 are most commonly used in dump truck applications. In some cases, Hardox 450/500 are used in the discharge end.



BUFFER BIN

Hardox 500/550 are used to line the walls of buffer bins.



RAIL ROAD CAR

Used in car bottoms and side walls, Hardox 450 allows rail road cars to withstand wear and denting.



DISCHARGE SITE

Hardox 400 to 600 are ideal for side liner plates at the discharge site. The grizzly can be made of Hardox 400 to 550.



HOPPER & FEEDER

Hardox 450/500/550 are the wear plate of choice for the hoppers and feeder tables of the primary crusher.



CRUSHER

All Hardox grades may be used in different types of crushers depending on the wear exposure. Typical application is liner plates in some interior in areas with high wear.



MEASURING BIN & SKIP

Hardox 500/550 are used in the lining of measuring bins and skips.