

## 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 crushing, sorting and transporting. 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 Managers, Conceptual Design Group™ and Wear Technology Group™. The Conceptual Design Group consists of experts that can help optimize 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 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 causes squeezing wear, which is also a common wear type.

Each variety of recyclable material is unique and also contributes 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

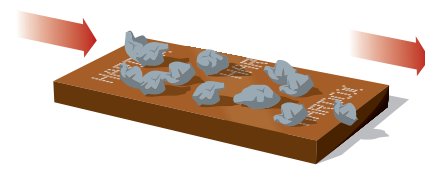
In sliding wear, abrasive objects are free to slide and roll. By selecting a harder Hardox grade, service life can be improved considerably.

#### Impact

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

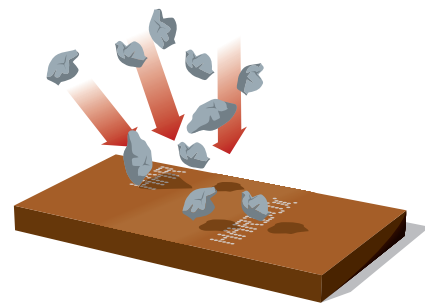
#### Squeezing

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.



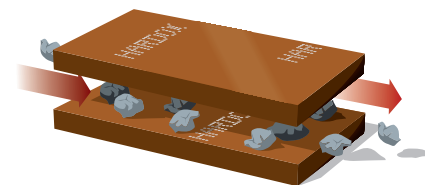
#### SLIDING

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

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#### SQUEEZING

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SSAB is a global leader in value added, high strength steel. SSAB offers products developed in close cooperation with its customers to create a stronger, lighter and more sustainable world.

SSAB has employees in over 45 countries and operates production facilities in Sweden and the US. SSAB is listed on the NASDAQ OMX Nordic Exchange, Stockholm. [www.ssab.com](http://www.ssab.com)

**HARDOX®**  
WEAR PLATE

# HARDOX ON SITE

## Recycling

A Part of Your Success

119-UK - Hardox on site: Recycling - VI - 2011. Confetti: Osterberg & Sömnstrandströck.



### HARDOX – COMPLETE PRODUCT PROGRAM

You'll always find a Hardox plate to fit your wear challenge. And 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.

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## Recycling Components For Tough Demands

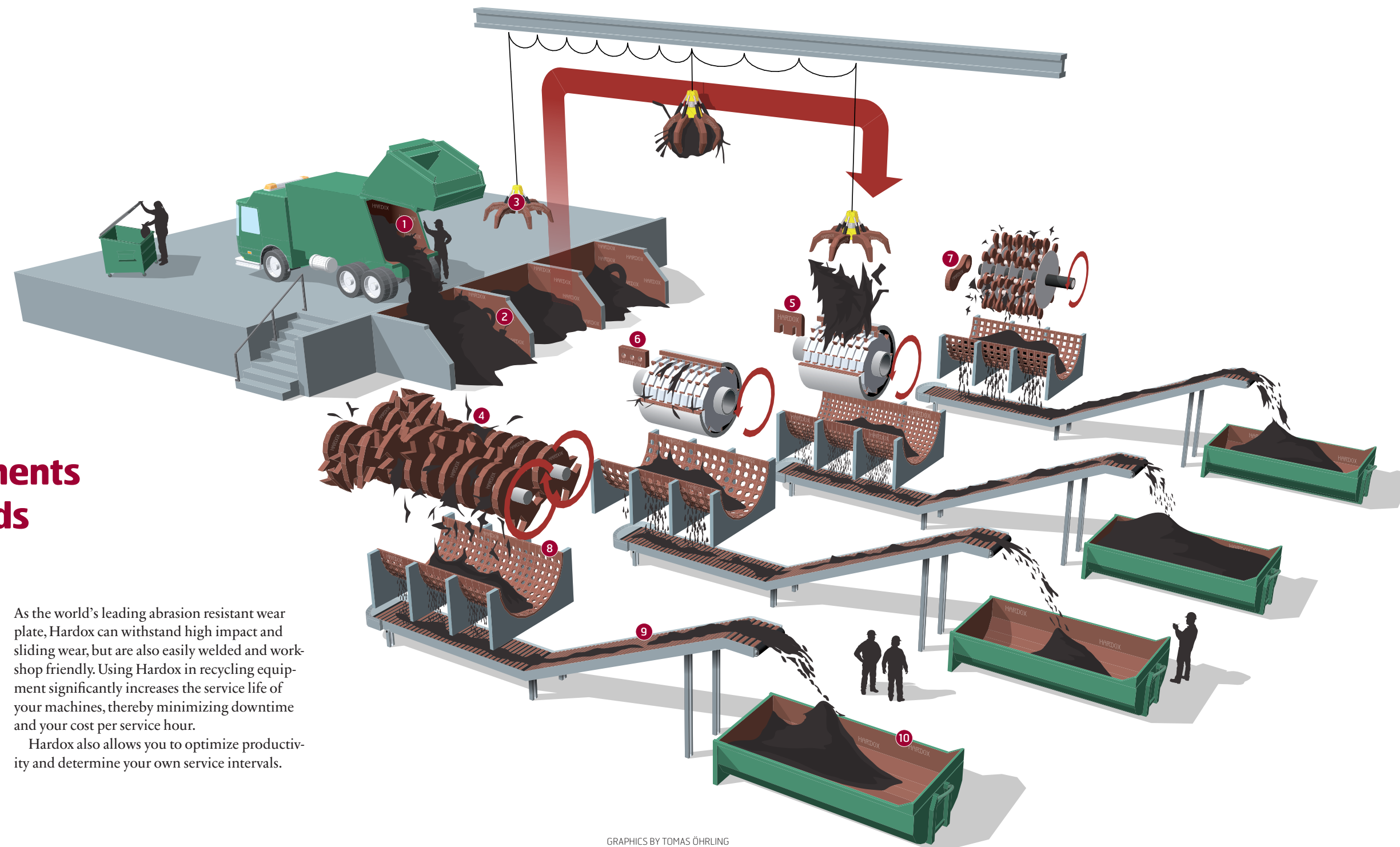
Recycling processes like the fragmentizing of waste places enormous demands on equipment.

And if the materials involved, wear too quickly it can also mean enormous costs. To stay productive and competitive it is vital to use materials that stand up to the abuse. Hardox wear plate is the solution.

Developed specifically for tough demands, Hardox wear plate allows recyclers and recycling equipment manufacturers to cut costs, improve service life, and optimize production.

As the world's leading abrasion resistant wear plate, Hardox can withstand high impact and sliding wear, but are also easily welded and workshop friendly. Using Hardox in recycling equipment significantly increases the service life of your machines, thereby minimizing downtime and your cost per service hour.

Hardox also allows you to optimize productivity and determine your own service intervals.



GRAPHICS BY TOMAS ÖHRLING

## APPLICATIONS



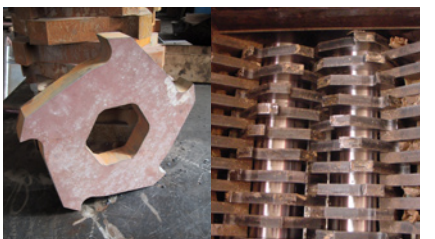
**1. GARBAGE TRUCK**  
Hardox 400 or 450. With the increased hardness of Hardox, lighter trucks with higher payloads can be produced. For packer blades inside garbage trucks, Hardox 450 or 500 is used.



**2. LINER PLATES**  
Hardox 500, 550 or 600. Hardox can be used to line the walls of the sorting pockets.



**3. GRAPPLES**  
Hardox 450 or 500. Hardox can significantly increase the life of the grapple and other gripping equipment.



**4. SHREDDERS**  
Hardox 500, 550 or 600. Hardox can also be used in shredders. The specific steel grade depends on the sorted material and the frequency of tough, hard-crushed objects in the machine. The high toughness of Hardox steels provides shredders with a substantially higher resistance against cracking and cleavages.



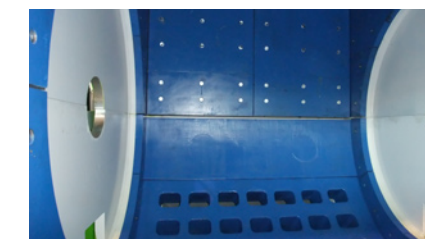
**5. GRANULATOR KNIVES**  
Hardox 600 or Extreme. Granulator knives are used for the fragmentation of waste especially plastic, tires, cables and rubber waste. The high toughness of Hardox steels provides substantially higher resistance against chipping.



**6. PRISMATIC KNIVES**  
Hardox Extreme or 600. For the fragmentation of waste, especially plastics, tires, cables and rubber waste, Hardox can be used. The high toughness of Hardox steels provides substantially higher resistance against chipping.



**7. HAMMER MILLS**  
Hardox 500, 550 or 600. Hammers are used for the fragmentation of waste and minerals. The high toughness of Hardox steels provides substantially higher resistance against cracking.



**8. SIEVES/SCREEN**  
Hardox 500 or 450. Roll-bended sieves are most commonly used in recycling as both a sorting and fragmenting facility at the same time. The high toughness of Hardox steels provides a substantially higher resistance against cracking.



**9. CONVEYOR BELT**  
Hardox 450 or 500. Hardox plates can be used to line conveyor belts and be used in moving chains.



**10. CONTAINERS**  
Hardox 400 or 450. For use in the sides and floor of containers, Hardox wear plate combines toughness with high hardness, meaning more resistance to impacts and dents, and a higher wear resistance.