

DOMEX[®]

DOCOL[®]

DOGAL[®]

**Lighter
Stronger
Smarter**

Container

SSAB
SWEDISH STEEL



Fresh thinking in containers

Few products have to endure as hard a life as a container. Problems can easily arise in the day-to-day handling. These commonly include poor strength of the frame-work, bulges and cracks caused by impacts, deficient welded joints, and corrosion.

All of this together leads to high repair costs. In addition, today's generation of containers incurs high transport costs and high energy consumption for transporting them.

So many container users now dream of containers that are lightweight, strong, durable and attractively styled.

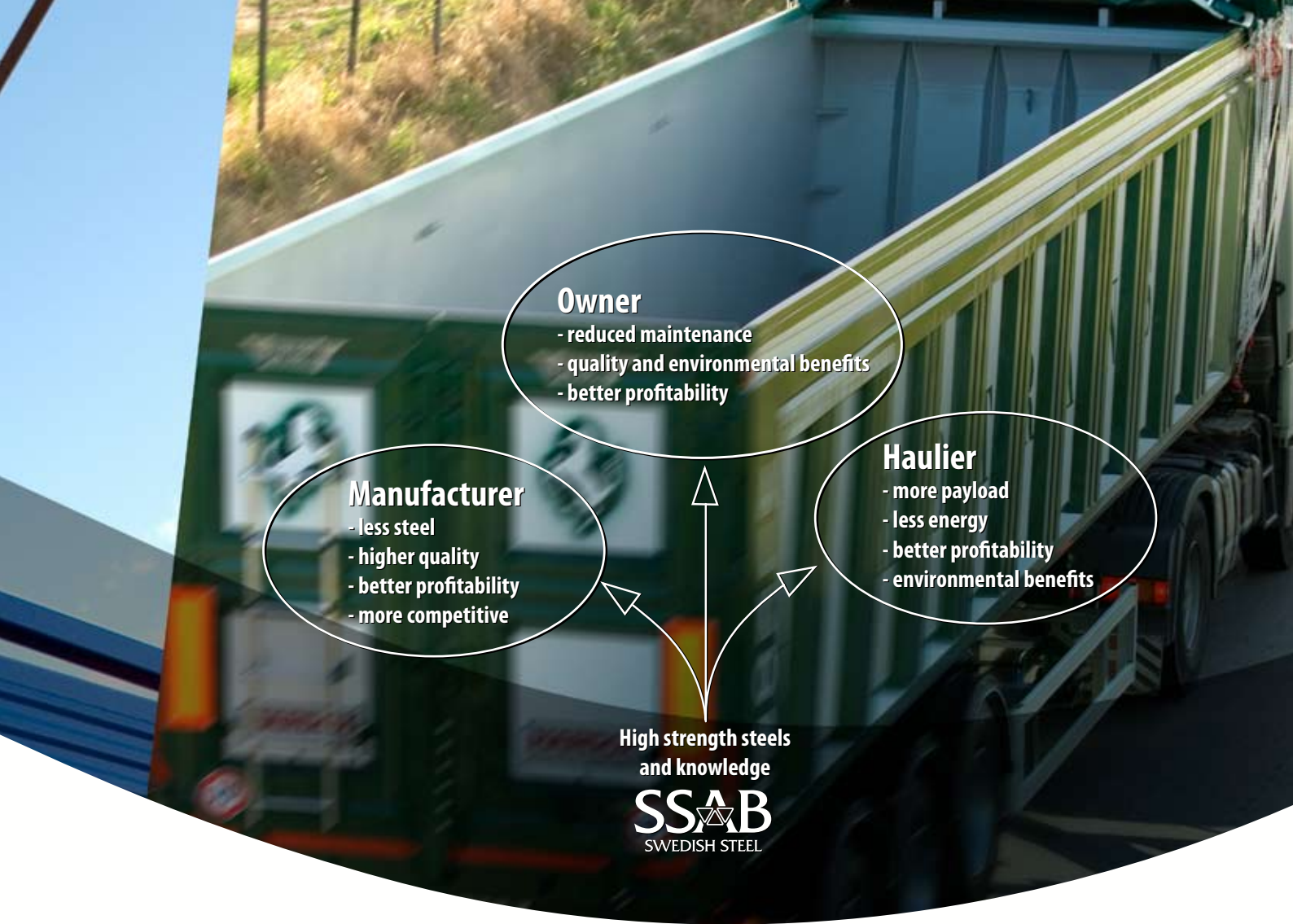
This is not just a dream. We at SSAB Tunnplåt certainly don't think so. Our high strength steels can contribute to the dream of lighter and stronger containers becoming reality.

Today, high strength steel has become a natural material in the production of vehicles. We are now promoting the benefits of using high strength steels for producing containers.

After consulting representatives of manufacturers, owners and hauliers, we have gained a fairly clear picture of how the industry performs and what problems arise.

SSAB Tunnplåt is contributing knowledge and ideas to the way in which high strength steels can assist in the development of the container industry.

The main feature is that *much less high strength steel than ordinary steel is needed to achieve a given strength of a container*. This alone illustrates the exciting opportunities that will open up in the future.



Owner

- reduced maintenance
- quality and environmental benefits
- better profitability

Manufacturer

- less steel
- higher quality
- better profitability
- more competitive

Haulier

- more payload
- less energy
- better profitability
- environmental benefits

High strength steels
and knowledge

SSAB
SWEDISH STEEL

Some of the benefits

Higher profit per journey

Since a container made of high strength steel is lighter, it will be able to carry more cargo per journey at the same total weight as in the past. This results in fewer shipments and a major saving.

Environmental benefits

- Lower fuel costs

Fewer shipments and lower weight result in lower fuel consumption. This is a good combination of benefit to the environment. Containers in high strength steel weigh less and are aerodynamically better, which also lowers the fuel costs during transport. Just one high strength

steel container of aerodynamically good design can reduce the carbon dioxide emissions by several tonnes a year.

Lower maintenance costs and longer useful life

A high strength steel container for transporting scrap materials is stronger, which makes it better able to withstand blows and shocks. The overall result is that its maintenance costs will be lower and its useful life will be longer.

This is how much you gain

Savings in freight costs

Example

	Traditional container	High strength steel container
Weight [t]	3,5	2,4
Freight cost per tonne [€/t]	13	13
Numbers of trips per year	1500	1500
Weight saving per trip* [t]	-	3,3
Saving per vehicle [€]		€ 64350

Fuel savings

Example**

New design gives improved aerodynamics***	-	7%
Distance travelled per year [km]	130000	130000
Estimated fuel consumption [l/100km]	6	6
Fuel saving due to improved aerodynamics [€]		€ 5460

Reduced fuel consumption related to lower vehicle weight [l/100km per ton saved]****	0,6	
Distance travelled per year [km]	130000	130000
Weight saving per trip [t]		3,3
Fuel saving due to weight reduction [€]	-	2574

Total annual gain per container vehicle **€ 72384**

*Three containers per vehicle

**Estimated fuel price €1/litre

***Report: General Purpose Waste Container

****Institute for Engineering Research

The new design

Hook lift eye

Should resist handling impacts and distribute the lifting loads into the structure.

Top rail beam

Should be strong to manage loading from cranes and frontloaders.

Doors

Needs reliable and safe operation

Floor

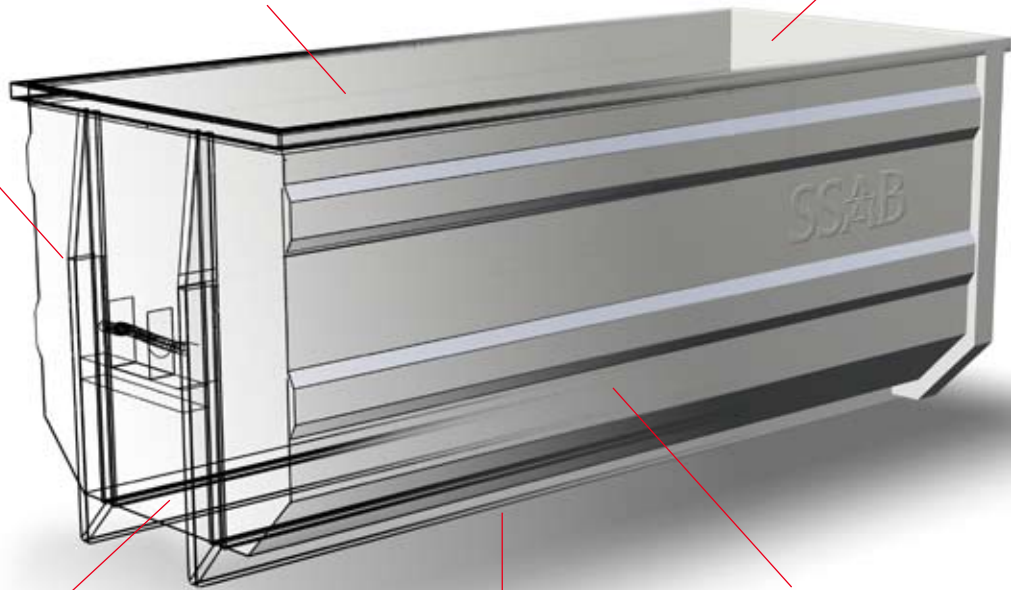
Should withstand big impacts from high drops without bigger dents and cracks.

Subframe

Should sustain safe locking mechanisms and tough handling from hooklifts and contact pressure from rollers.

Sidewalls

Clean design with AHSS for improved aerodynamics, less corrosion and more effective production.



From a manufacturers point of view



Less steel is needed

Less steel is needed for producing a container of high strength steel, which cuts the material costs.

Good formability in relation to strength

Domex and Docol has good formability. These steels combine high strength with good formability.

Most often the existing work shop equipment can be used

Lower welding costs

High strength steel reduces the welding time and the amount of filler metal, which cuts the welding costs.

Lower storage costs

Thinner sheet steel reduces the quantity of material, while high strength steel can replace several types of standard steel.

Better working environment

Lower weight of the parts and designs containing fewer components reduce the number of heavy lifts.

Knowledge Service Center

It is important for us at SSAB Tunnpålt to inform customers of the benefits of high strength steels, so that they will be able to use them in the right way. SSAB Tunnpålt sells knowledge rather than just high strength steel. This is why we

have set up a department at SSAB Tunnpålt known as the Knowledge Service Center.

The department is staffed by experts who can assist you in using advanced high strength steels when changing over from traditional

steels. Do not hesitate to get in touch with our Knowledge Service Center to make the changeover to tomorrow's steel as smooth as possible.

Telephone +46 243 729 29 • www.ssabdirect.com • helpdesk@ssab.com

SSAB Tunnpåt AB is the largest Scandinavian manufacturer sheet steel manufacturer and a leader in Europe in the development of high strength, extra high strength and ultra high strength steels.

SSAB Tunnpåt is a member of the SSAB Swedish Steel Group, has a turnover of SEK 12 billion, and has around 4200 employees in Sweden. The company produces about 2.6 million tonnes of sheet steel annually.

Our environmental policy involves continual improvements of the efficiency of production processes and environmental care plants, and development of the environmental properties of our products from the life cycle perspective.

We manufacture the following steels in our modern, high-efficiency production lines and rolling mills for strip products:

DOMEX®
hot-rolled steel sheet

DOCOL®
cold-reduced steel sheet

DOGAL®
metal coated steel sheet

PRELAQ®
prepainted steel sheet.

Registered trademarks of
SSAB Tunnpåt AB

We assist our customers in selecting the steels that are best suited for improving their competitiveness. Our strength lies in the quality of our products, our reliability of supply, and our flexible technical customer service.

ssabdirect.com



SSAB Tunnpåt AB
SE-781 84 Borlänge
Sweden
Tel +46 243 700 00
Fax +46 243 720 00
office@ssabtunnpat.com
ssabtunnpat.com

Czech Republic
SSAB Swedish Steel
Tel +42 0 545 42 25 50

Denmark
SSAB Svensk Stål A/S
Tel +45 43 20 5000
ssab.dk

Finland
OY SSAB Svenskt Stål AB
Tel +358 9 686 6030
ssab.fi

France
SSAB Swedish Steel SA
Tel +33 1 55 61 91 00
ssab.fr

Germany
SSAB Swedish Steel GmbH
Tel +49 211 91 25-0
Tel +49 711 6 87 84-0
ssab.de

Great Britain
SSAB Swedish Steel Ltd
Tel +44 1905 795794
swedishsteel.co.uk

Italy
SSAB Swedish Steel S.p.A
Tel +39 030 90 58 811
ssab.it

The Netherlands
SSAB Swedish Steel BV
Tel +31 24 67 90 550
ssab.nl

Norway
SSAB Svensk Stål A/S
Tel +47 23 11 85 80
ssab.no

Poland
SSAB Swedish Steel Sp.z.o.o.
Tel +48 602 72 59 85
ssab.pl

Portugal
SSAB Swedish Steel S.p.A
Tel +351 256 371 610
ssab.pt

Spain
SSAB Swedish Steel SL
Tel +34 91 300 5422
ssab.es

Turkey
SSAB Swedish Steel SL
Tel +34 91 300 5422
ssab.es

Spain
SSAB Swedish Steel Celik
Dis Tic. Ltd. Sti.
Tel +34 91 300 5422

USA
SSAB Swedish Steel Inc
Tel +1 412 269 21 20
swedishsteel.us

Brazil
SSAB Swedish Steel Ltda.
Tel +55 413 014 90 70
ssab.com.br

South Africa
SSAB Swedish Steel Pty Ltd
Tel +27 11 827 0311
swedishsteel.co.za

Australia
SSAB Swedish Steel Pty. Ltd.
Tel +61 3 9548 8455

China
SSAB Swedish Steel
Tel +86 10 6466 3441
swedishsteel.cn

Korea
SSAB Swedish Steel Ltd
Tel +822 369 72 72