

New, twice as strong
steel for lighter
containers



SSAB
TUNNPLÅT

More payload in

NEW STEELS – NEW BENEFITS

Steels are not just steels. Research and development are continually producing new steel grades. The performance of today's modern, extra high strength steels is far beyond that of standard steels. SSAB Tunnpålt in Sweden is world leader in developing and supplying such steels.

Our steels combine the following characteristics:

- extra high strength and impact resistance
- excellent weldability and formability
- weather resistant properties (our “W” series)

By using modern SSAB extra high strength steels for containers, great gains can be made by reducing the tare weight.

SSAB Tunnpålt can now offer newly developed extra high strength steels such as Domex 700 MC, Domex 700 W and Docol 700 W, all of which offer new opportunities to container users. The container tare can be reduced by around 15 percent, or by around 20 percent if combined with laminated longitudinal spruce flooring, without compromising the integral box strength. These tares were previously only achievable in aluminium containers.

EXTRA HIGH STRENGTH STEEL FOR IMPROVED PROFITABILITY

Companies who specifies SSAB extra high strength steels for their containers will have the potential to improve their profitability, simply because with a lower box weight:

- more payload can be carried, so fewer shipments will be needed
- freight rates can be increased, combined with lower costs
- more containers can be carried on a vessel before its deadweight is reached
- the competitive edge will increase

A container made of SSAB extra high strength steels could be slightly more expensive than a container made of standard steel. Experts claim however that the pay back period for this extra cost is no more than in between one and two years, which of course is highly dependent on the trade route and frequency of use. The useful life of a container is generally around ten years. So a container made of Domex 700 MC, Domex 700 W or Docol 700 W will be more profitable over the whole of its useful life than a container made of standard steel.

REDUCED ENVIRONMENTAL IMPACT

Containers made of SSAB extra high strength steels as Domex 700 MC, Domex 700 W or Docol 700 W steel cause less environmental impact than containers made of standard steels. In production alone, less steel is used, which results in lower environmental impact. And since the containers carry more payload, fewer transport journeys will be needed. This results in reduced exhaust emissions from the combustion of fossil fuels, and less congestions on the road.

THE CONTAINER STEELS

The Domex 700 MC extra high strength steel used for the frame is twice as strong as normal Corten. This steel has a minimum yield strength of 700 N/mm², which is twice the yield strength of the normally specified for containers. Domex 700 MC is available in thicknesses from 3 mm upwards.



a lighter container

POSSIBLE ESTIMATED TARE WEIGHT
REDUCTION ON VARIOUS CONTAINER TYPES

Type	Standard weight	Poss. weight using Domex and Docol ⁽¹⁾	Poss. weight with new steel and new floor ⁽²⁾
20ft steel DV	2 180 kg	1 900 kg	1 800 kg
40ft steel DV	3 560 "	2 980 "	2 800 "
45ft steel PW DV	4 750 "	4 020 "	3 800 "
53ft steel USA domestic	5 100 "	4 390 "	4 150 "

⁽¹⁾ New extra high strength steel Domex 700 W or Domex 700 MC in the mainframe and Docol 700 W in the side and end front panels.
⁽²⁾ Above extra high strength steels incl. laminated longitudinell spruce flooring.



a lighter container

Typical applications include:

- corner posts
- cross-members
- gooseneck tunnel assembly
- corner casting protection plates
- sills and headers

The **Domex 700 W** extra high strength, weather-resistant steel twice as strong as normal Corten has been developed specially for the container industry. Domex 700 W contains the alloying elements that provide it with weather resistance properties (such as those of Corten), at an impressive yield strength of at least 700 N/mm². The steel is available in thicknesses from 3 mm upwards. Typical applications are the same as those of Domex 700 MC, i.e. the main structural components.

The **Docol 700 W** extra high strength weather-resistant steel for panels is twice as strong as normal Corten. The steel has only recently been developed and taken into production. It has a minimum yield strength of 700 N/mm² and is produced in thicknesses of 2 mm and below. It is specially designed for use in container panels. In addition to its weather-resistant properties, Docol 700 W is characterized by high resistance to impact and wear.

ALSO FOR SPECIAL APPLICATIONS

In addition to the above application in dry freight boxes, SSAB Tunnplåt products are used to an increasing extent in the following specials:

Steel reefers: Domex 700 MC and Domex 700 W for the main frame and Docol 700 W for the corrugated subfloor.

Aluminium reefers: Domex 700 MC and Domex 700 W for the main frame.

Tanks: Domex 700 MC or Domex 700 W for the frame structure.

Aluminium dry freight: Domex 700 MC and Domex 700 W for the main frame.

GOOD RESULTS

The benefits of using SSAB's extra high strength steels in container production has already been recognized since it is used in thousands of boxes already. For instance mainly specials as 45 ft European and 53 ft USA domestic containers.

WE CAN ASSIST YOU

New steels demand new solutions. At the SSAB Tunnplåt Technical Customer Service Department, we have the experience and competence in assisting in the development of products for which our modern extra high strength steels are used. We can offer our customers the technical support, development cooperation and practical testing they may need in areas such as design calculations, welding, forming, anti-corrosion treatment and surface treatment.

AVAILABILITY

SSAB Tunnplåt is a global company. Our sales companies in all corners of the world will be pleased to assist our customers to find solutions that are matched to their specific applications.

THICKNESS RANGE

Steel grade	Thickness ^(*)
Docol 700 W	0,5 – 2 mm
Domex 700 MC	3 – 8 mm
Domex 700 W	3 – 6 mm
(*) For other thicknesses, please contact Technical Customer Service Department	



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

SSAB Tunnplåt, which is a member of the SSAB Swedish Steel Group, has a turnover of SEK 9 billion and has around 4 400 employees in Sweden. The company's annual production capacity is around 2.5 million tonnes of steel sheet.

Our environmental policy is focused on continual improvement of the environmental conditions of the manufacturing process and pollution control equipment. Our products are constantly being improved towards minimal environmental impact in a life cycle perspective.

We manufacture the following steels in our modern, highly efficient production lines and rolling mills for strip products:

- DOMEX** hot-rolled steel sheet
- DOCOL** cold-reduced steel sheet
- DOGAL** hot-dip galvanized steel sheet
- PRELAQ** prepainted steel sheet

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



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