

Domex 700 W

The weather resistant extra high strength steel

Product

A newly developed weather resistant steel in the Domex range characterized by:

- Corrosion resistance
- Extra high strength
- Good formability
- Good impact toughness
- Good weldability

The unique combination of these properties is achieved by fine grain size, precipitation hardening and closely controlled hot rolling practice. Moreover, this steel is weather resistant, i.e. during outdoor usage within a couple of years, a smooth compact oxide layer is formed that inhibits further corrosion.

Weather resistance index according to ASTM G101-97 is similar to Corten A.

Applications

Typical applications can be vehicle chassies, container frames bridges, buildings, chimneys, rail wagons, snow sheds, and different kinds of masts i.e. applications where a corrosion resistant steel is needed together with high strength.

Dimension range

Domex 700 W can after agreement be delivered in dimensions according to table below.

Thickness (mm)	Width (mill edge) (mm)	Length (mm)
3 - (5)	900 - 1300	1500 - 13000
5 - 6	900 - 1600	1500 - 13000

Chemical composition

C %	Si %	Mn %	P %	S %	Cr %	Cu %	Others %
max	max	max	max	max			
0,12	0,60	2,10	0,030	0,015	0,30-1,25	0,25-0,55	a, b, c

a - The steels may show a Ni content of max 0,65%

b - The steels may contain max 0,30% Mo

c - The sum of Nb, V and Ti shall be max 0,22%

Mechanical properties

Yield strength R_{eH} N/mm ² min	Tensile strength R_m N/mm ² min	Elongation A_5 % min
700	750	12

Test is carried out with longitudinal test specimens.

Bending

The minimum inner bending radius for 90° bend is 2.0xt, using a die opening of 10xt.

Impact toughness

The Charpy V-notch test is carried out according to EN 10045-1. Domex 700 W can be delivered with impact toughness guarantee at -20°C and 40J.

Welding

The weldability of Domex 700 W is good. No preheating is required. All conventional welding methods can be used.

To ensure that the weldments have the same corrosion resistance as the base metal, special filler metals should be used.

The filler metals are undermatching in relation to the base metal strength, but the dilution of alloying elements from the base metal makes the weldment strength matching or slightly undermatching compared to base metal strength.

Producer	MMA (Manual metal arc)	MAG (Metal active Gas)	MCAW (Metal cored arc welding)
ESAB Filarc Oerlikon	OK 73.08 85CP Tencord Kb	OK Autrod 13.26 PZ 6012 Spoolcord TD-COR	Tubrod 14.01 PZ 6112 Fluxofil 18

Heat treatment

Stress relieving should be carried out below 580°C. Heating above this temperature, such as normalising or hot forming, reduces the strength and should be avoided.

Technical service and information

Knowledge Service Center will be pleased to assist with additional information concerning this product from SSAB Tunnpåt.

The particulars in this data sheet are correct at the time of going to print and are intended to give general guidance for the use of the product. Subject to changes arising from continual product development. The information and data must not be regarded as guaranteed values, unless specially confirmed in writing.

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