

## Domex 550 W

# The weather resistant extra high strength steel

### Product

A 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.

### Applications

Typical applications are vehicle underbodies, container frame structures, steel bridges and building constructions, chimney cases, rail wagons, snow sheds, different kinds of masts i.e. applications where a corrosion resistant steel is needed together with high strength.

### Dimension range

Domex 550 W can be delivered in dimensions according to table below.

Thickness (mm)	Width (mill edge) (mm)	Length (mm)
3	1280	1500 - 13000
4	1280	1500 - 13000
5	1280	1500 - 13000
6	1280	1500 - 13000

For special requirements other thicknesses (within the range 3-6mm) and widths can be delivered.

### Chemical composition

C %	Si %	Mn %	P %	Cu %	Cr %	Micro alloying elements
max	max	max	max	max	max	
0,10	0,45	0,80	0,12	0,35	0,95	added

### Mechanical properties

Yield strength $R_{eH}$ N/mm <sup>2</sup>	Tensile strength $R_m$ N/mm <sup>2</sup>	Elongation $A_5$ %
min 550	min 600	min 18

### Bending

For sheet thickness 3-6mm the minimum inner bending radius for 90° bend is 1xt, using a die opening of 10xt.

### Impact toughness

Charpy-V test is carried out with longitudinal test specimens. Domex 550 W can be delivered with impact toughness guarantee at -40°C and 27J.

### Welding

The weldability of Domex 550 W is good. No preheating is required. All conventional welding methods can be used.

To obtain the same corrosion resistance in the weldment as in the base metal special filler metals should be used. The producers of filler metals have given the following recommendations for welding of this type of weather resistant steels:

Producer	MMA (Manual metal arc)	MAG (Gas metal arc)	FCAW (Flux cored arc)
ESAB	OK 73.08	OK Autrod 13.26	OK Tubrod 14.01
Filarc	85CP	PZ 6012	PZ 6112
Oerlikon	Tenconrd Kb	Spoolcord TD-COR	Fluxofil 18

OK Autrod 13.26 is a matching wire while the other filler metals are slightly undermatching in relation to the base metal strength of Domex 550 W.

### Heat treatment

Normally stress relieving is not needed. If however needed, 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 Tunnplåt.

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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