

Welding

Outokumpu PSC Nordic

Outokumpu PSC Nordic can produce many various types of welded products in Forta range stainless steel grades using a method which gives high flexibility.

Square hollow sections

Our manufacturing process for square hollow sections starts with two bended U-profiles that are welded together through mechanized plasma arc welding (PAW) and submerged arc welding (SAW). These two methods give a high flexibility and we can make square hollow sections in a wide thickness and dimensional range. Special- as well as standard dimensions can be made according to customer need.

Stainless welded hollow sections are produced in thicknesses from 5 mm up to 20 mm. The maximum thickness available depends on the steel grade, dimension and length of the finished section. In our range we offer both rectangular and square hollow sections. Depending on the grade we can produce from 100*100*5 mm to 1000*1000*20 mm. Maximum length of the sections could be dependent on the steel grade but normally up to 13 000 mm (without further joints).

Post welding we perform a clean cut which provides us with possibilities to cut the section into shorter lengths or cut with an angle.

The square hollow sections are straightened to the agreed tolerances and the surface could be further treated by shot blasting or pickling. Our production method does not require long series of production even if this is of course possible as well.

Welded beams

Outokumpu offers a wide selection of welded beams in Forta range stainless steel grades. The welding method for this product is mechanized submerged arc welding (SAW). This method gives high flexibility and we can make various types of beams such as IPE, HEA, HEB and HEM in various sizes and thicknesses.

Maximum length in our mechanized production line is 13 000 mm. Depending on the steel grade we produce our beams from IPE 100 to HEM 1000. Other dimensions can also be made but then we need to have manual steps in our production. Post welding the welded beam is cut clean which gives us the possibility to cut the beam in shorter lengths or cut with an angle. The beam is straightened to the agreed tolerances and the surface could be further treated by shot blasting or pickling.

As an additional service we can offer welding splicing of stainless steel.

Standards and tolerances

Being part of the Outokumpu group provides us with access to vast technical knowledge and development in order to satisfy the most demanding customer requirements.

If no specific requirements has been made by the customer we offer according to the following standards: EN-ISO 5817:2007 Class C and EN-ISO 3834-4. Other requirements and tolerances could be offered from case to case.

Why use stainless steel?

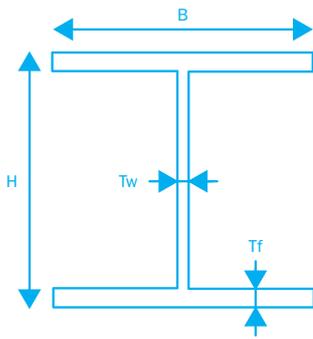
Stainless hollow sections, beams and profiles can be used in all kinds of load bearing constructions and can especially substitute carbon steel when the material is subject to:

- High corrosion
- Various kind of acids
- Aesthetic demands
- Hygienic demands
- Environmental demands

The range of applications is therefore not limited to building & construction but also include pulp & paper, petrochemical, food, nuclear and architecture among others.

Why use duplex stainless steel?

Utilizing Forta range duplex stainless steel in an optimized design will lead into weight savings in your load bearing construction which then leads to cost savings. The high chromium content gives high corrosion resistance and this together with the low nickel content makes duplex a very cost efficient solution. If you choose the right grade for your application you will most probably have a lower life cycle cost since the steel will not corrode and no or minimal maintenance is needed.



Standard dimensions

Height H: 96 – 1 008 mm
 Flange width B: 55 – 500 mm
 Web thickness Tw: 5 – 30 mm
 Flange thickness Tf: 6 – 40 mm
 Length: 5000 – 12 000 mm

Fig. 2.

Table 1

Beamsize	IPE-balk (DIN 1025-5)				
	H	B	Tw	Tf	r
100	100	55	5	6	5
160	160	82	5	8	5
200	200	100	5	8	5
240	240	120	6	10	6
300	300	150	8	10	6
360	360	170	8	12	6
400	400	180	8	12	7
450	450	190	10	15	7
500	500	200	10	15	7
550	550	210	10	20	9
600	600	220	12	20	9
700	-	-	-	-	-
800	-	-	-	-	-
900	-	-	-	-	-
1000	-	-	-	-	-

Table 2

Beamsize	HEA-balk (DIN 1025-3)				
	H	B	Tw	Tf	r
100	96	100	5	8	5
160	152	160	6	8	5
200	190	200	6	10	6
240	230	240	8	12	6
300	290	300	8	15	7
360	350	300	10	20	7
400	390	300	12	20	9
450	440	300	12	20	9
500	490	300	12	25	9
550	540	300	12	25	11
600	590	300	12	25	11
700	690	300	15	25	11
800	790	300	15	30	11
900	890	300	15	30	14
1000	990	300	15	30	14

Table 3

Beamsize	HEB-balk (DIN 1025-2)				
	H	B	Tw	Tf	r
100	100	100	6	10	5
160	160	160	8	12	6
200	200	200	8	15	7
240	240	240	10	20	7
300	300	300	10	20	9
360	360	300	12	25	11
400	400	300	12	25	11
450	450	300	15	25	11
500	500	300	15	30	11
550	550	300	15	30	11
600	600	300	15	30	14
700	700	300	20	30	14
800	800	300	20	35	14
900	900	300	20	35	14
1000	1000	300	20	35	14

Table 4

Beamsize	HEM-balk (DIN 1025-4)				
	H	B	Tw	Tf	r
100	120	106	12	20	14
160	180	166	15	25	11
200	220	206	15	25	11
240	270	248	20	30	14
300	340	310	20	40	18
360	395	308	20	40	18
400	432	307	20	40	18
450	478	307	20	40	18
500	524	306	20	40	18
550	572	306	20	40	18
600	620	305	20	40	18
700	716	304	20	40	18
800	814	303	20	40	18
900	910	302	20	40	18
1000	1008	302	20	40	18

Table 5

Height x Width (mm)		5	6	8	10	12	15
120	120	x	x	x	x		
140	140	x	x	x	x	x	
150	150	x	x	x	x	x	
160	160	x	x	x	x	x	
180	180	x	x	x	x	x	
200	200	x	x	x	x	x	
250	250	x	x	x	x	x	x
300	300	x	x	x	x	x	x
350	350	x	x	x	x	x	x
400	400	x	x	x	x	x	x
450	450	x	x	x	x	x	x
500	500	x	x	x	x	x	x



Own notes

A series of horizontal dotted lines for taking notes.

Working towards forever.

We work with our customers and partners to create long lasting solutions for the tools of modern life and the world's most critical problems: clean energy, clean water, and efficient infrastructure. Because we believe in a world that lasts forever.

outokumpu
classic

Moda

Mildly
corrosive
environments

Core

Corrosive
environments

Supra

Highly
corrosive
environments

outokumpu
pro

Forta

Duplex
& other
high strength

Ultra

Extremely
corrosive
environments

Dura

High
hardness

Therma

High
service
temperatures

Prodec

Improved
machinability

Deco

Special
surfaces

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