

## Structural steel

Cold-rolled structural steel has guaranteed minimum strength and good welding properties, making it suitable for a broad range of applications.

### Typical applications

- tubing
- domestic appliances
- steel furniture
- warehouse shelving

**Table 31: Standards**

Corus	National	
	UK	Germany
Grade	BS 1449 : 1991	DIN 1623-2 : 1986
CA200	CR 34/20	–
CA240	CR 37/23	St37-2G
–	–	RRSt37-3G
CA260	–	–

**Table 33: Mechanical properties: BS 1449 : 1991**

Grade	R <sub>p</sub> (N/mm <sup>2</sup> )	R <sub>m</sub> (N/mm <sup>2</sup> )	A <sub>80</sub> (%)
	Min	Min	Min
CR 34/20	200	340	27
CR 37/23	230	370	26

### Standards

Cold-rolled structural steel complies with the standards shown in table 31 below. Other national standards and nearest related grades are also shown in the table.

### Mechanical properties

The values shown for the mechanical properties in tables 32, 33 and 34 below are for skin-passed material and are for test pieces taken transverse to the rolling direction.

**Table 32: Mechanical properties: Corus grades**

Grade	R <sub>p</sub> (N/mm <sup>2</sup> )	R <sub>m</sub> (N/mm <sup>2</sup> )	A <sub>80</sub> (%)
	Min-max	Min-max	Min
CA200	200-260	320-380	30
CA240	240-300	300-400	28
CA260	260-340	350-450	24

**Table 34: Mechanical properties: DIN 1623-2 : 1986**

Grade	R <sub>p</sub> (N/mm <sup>2</sup> )	R <sub>m</sub> (N/mm <sup>2</sup> )	A <sub>80</sub> (%)
	Min	Min-max	Min
St37-2G	215	360-510	20
RRSt37-3G	215	360-510	20

## Chemical composition

Cold-rolled structural steel meets the requirements of the cast analysis in each of the standards, as shown below in tables 35, 36 and 37.

**Table 35: Chemical composition: Corus grades**

Grade	<b>C</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Sol. Al</b>
	Max	Max	Max	Max	Min-max
CA200	0.120	0.60	0.045	0.045	–
CA240	0.085	0.55	0.035	0.030	0.020-0.080
CA260	0.100	0.60	0.035	0.030	0.015-0.080

**Note:** Values are in weight percentages.

**Table 36: Chemical composition: BS 1449 : 1991**

Grade	<b>C</b>	<b>Mn</b>	<b>P</b>	<b>S</b>
	Max	Max	Max	Max
CR 34/20	0.15	1.20	0.050	0.050
CR 37/23	0.20	1.20	0.050	0.050

**Note:** Values are in weight percentages.

**Table 37: Chemical composition: DIN 1623-2 : 1986**

Grade	<b>C</b>	<b>Mn</b>	<b>P</b>	<b>S</b>
	Max	Max	Max	Max
St37-2G	0.17	–	0.040	0.035
RRSt37-3G	0.17	–	0.040	0.035

**Note:** Values are in weight percentages.

## Dimensions

The width and thickness limits are shown in table 38 below. The minimum width for all products is 750mm, except for CA200, CA240 and CA260, which have a minimum width of 900mm.

**Table 38: Dimensions : BS 1449 : 1991, DIN 1623-2 : 1986, Corus grades**

Thickness		Width			
		CR 34/20	St37-2G RRSt37-3G CR 37/23	CA200 CA240	CA260
>	≤	Max	Max	Max	Max
0.35	0.40	1400	–	–	–
0.40	0.45	1650	–	–	–
0.45	0.50	1650	1400	–	–
0.50	0.60	1700	1500	1530	1360
0.60	0.65	2010	1800	1530	1360
0.65	0.70	2010	1800	1630	1360
0.70	0.75	2010	1800	1670	1360
0.75	1.00	2040	1800	1810	1360
1.00	1.25	2040	1800	1810	1500
1.25	1.60	1900	1800	1810	1500
1.60	1.75	1900	1800	–	–
1.75	1.95	1850	1800	–	–
1.95	2.05	1800	1800	–	–
2.05	2.25	1700	1800	–	–
2.25	2.40	1500	1800	–	–
2.40	2.45	1300	1800	–	–
2.45	2.65	1300	1600	–	–
2.65	2.70	1275	1600	–	–
2.70	2.80	1275	1400	–	–
2.80	3.00	1275	1400	–	–
3.00	3.10	1275	1250	–	–

**Notes:**

1. The minimum width for all products is 750mm except for CA200, CA240 and CA260, which have a minimum width of 900mm.
2. Dimensions are in millimetres.