## HOT-ROLLED FLAT PRODUCTS OF ORDINARY QUALITY CARBON STEEL

### General characteristics

Hot-rolled flat products of ordinary quality steel are applied for manufacture of steel structures for industrial and public construction, in machine building and in transport.

Chemical composition of this steel is specified in GOST 380-94, mechanical properties of the products under 4.0 mm in thickness are specified in GOST 16523-97, those of the products 4.00 mm in thickness are specified in GOST 14637-89.

The steel grades given below are analogous to some widespread types of steel produced in conformity with national standards of Germany, USA, GB and other countries.

Standards

| Standards Identification | | | | | |
|---|---|---|---|---|---|
| GOST 14637-89<br><br>GOST 16523-97 | EN 10025 (93) | DIN 17100 | ASTM 570 | JIS G3101 | BS 4360 |
| St2ps, St2sp | S235JR | St 37-2 | - | - | - |
| St3ps, St3sp | S235JRG2 | RSt 37-2 | Gr. 36 | - | 40B |
| St3ps, St3sp | S235J0<br><br>S235JRG3 | St 37-3 | Gr. 36 | - | 40D |
| St3Gps, St3Gsp | - | - | - | - | - |
| St4ps, St4sp | S275JR | St 44-2 | Gr. 40 | SS 400 | 43B |
| St4ps, St4sp | S275J0<br><br>S275JRG3 | St 44-3 | - | SS 400 | 43C |
| St5ps, St5sp | E295 | St 50-2 | - | SS 490 | - |

Note: Chemical composition and mechanical properties of steel grades 40B, 40D, 43B, 50D, 50B under BS 4360 fully comply with EN 10025 requirements.

Chemical Composition

| Standard | Steel Grade | Fraction of total mass, (%) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | C | Mn | Si | P max | S max | Cr max | Ni max | Cu max |
| GOST 380-94 | St2ps | 0.09-0.15 | 0.25-0.50 | 0.05-0.15 | 0.04 | 0.05 | 0.30 | 0.30 | 0.30 |
| GOST 14637-89 | St2sp | | | 0.15-0.30 | | | | | |
| EN 10025 | S235JR | 0.20 max | 1.40 max | - | 0.045 | 0.045 | - | - | - |
| GOST 380-94 | St3ps | 0.14-0.22 | 0.40-0.65 | 0.05-0.15 | 0.04 | 0.05 | 0.30 | 0.30 | 0.30 |
| GOST 14637-89 | St3sp | | | 0.15-0.30 | | | | | |
| GOST 380-94 | St3Gps | 0,.14-0.22 | 0.80-1.10 | 0.15 max | 0.04 | 0.05 | 0.30 | 0.30 | 0.30 |
| GOST 14637-89 | St3Gsp | 0.14-0.20 | | 0.15-0.30 | | | | | |
| DIN 17100 | RSt 37-2 | 0.17 (1)<br>0.20 (2) | - | - | 0.050 | 0.050 | - | - | - |
| EN 10025 | S235JRG2 | 0.17 max | 1.40 max | - | 0.045 | 0.045 | - | - | - |
| ASTM A570 | Grade 36 | 0.25 max | 0.90 max | - | 0.035 | 0.40 | - | - | 0.20 |
| BS 4360 | 40B | 0.17 max | 1.40 max | - | 0.045 | 0.045 | - | - | - |
| DIN 17100 | St 37-3 | 0.17 max | - | - | 0.040 | 0.040 | - | - | - |
| EN 10025 | S235J0 | 0.17 max | 1.40 max | - | 0.040 | 0.040 | - | - | - |
| EN 10025 | S235J2G3 | 0.17 max | 1.40 max | - | 0.035 | 0.035 | - | - | - |
| BS 4360 | 40D | 0.17 max | 1.40 max | - | 0.035 | 0.035 | - | - | - |
| GOST 308-94 | St4ps | 0.18-0.27 | 0.40-0.70 | 0.05-0.15 | 0.04 | 0.05 | 0.30 | 0.30 | 0.30 |
| GOST 14637-89 | St4sp | | | 0.15-0.30 | | | | | |
| EN 10025 | S275JR | 0.21 max | 1.50 max | - | 0.045 | 0.045 | - | - | - |
| DIN 17100 | St 44-2 | 0.21 max | - | - | 0.050 | 0.050 | - | - | - |
| ASTM A570 | Grade 40 | 0.25 max | 0.90 max | - | 0.035 | 0.40 | - | - | 0.20 |
| JIS 3101 | SS 400 | - | - | - | 0.050 | 0.050 | - | - | - |
| BS 4360 | 43B | 0.21 max | 1.50 max | - | 0.045 | 0.045 | - | - | - |
| EN 10025 | S275J0 | 0.18 max | 1.50 max | - | 0.040 | 0.040 | - | - | - |
| EN 10025 | S275J2G3 | 0.18 max | 1.50 max | - | 0.035 | 0.035 | - | - | - |
| DIN 17100 | St 44-3 | 0.20 max | - | - | 0.040 | 0.040 | - | - | - |
| BS 4360 | 43C | 0.18 max | 1.50 max | - | 0.040 | 0.040 | - | - | - |
| GOST 308-94 | St5sp | 0.28-0.37 | 0.50-0.80 | 0.15-0.30 | 0.04 | 0.05 | 0.30 | 0.30 | 0.30 |
| GOST 14637-89 | St5ps | | | 0.05-0.15 | | | | | |
| DIN 17100 | St 50-2 | 0.30 max | - | - | 0.050 | 0.050 | - | - | - |
| JIS G3101 | SS 490 | - | - | - | 0.050 | 0.050 | - | - | - |
| EN 10025 | S275J2G3 | 0.18 max | 1.50 max | - | 0.035 | 0.035 | - | - | - |
| EN 10025 | S355K2G3 | 0.20 max | 1.60 max | 0.55 max | 0.035 | 0.035 | - | - | - |
| EN 10025 | S355JR | 0.24 max | 1.60 max | 0.55 max | 0.045 | 0.045 | - | - | - |

Note: Chemical composition and mechanical properties of steel grades 40B, 40D, 43B, 50D, 50B under BS 4360 fully comply with EN 10025 (93) requirements.

Mechanical Properties

| Standard | Steel Grade | Thickness, mm | Ultimate Sterngth Rm N/mm2 | Yield Strength Ren N/mm2 , min | Relative Elongation, d5", %, min | Impact Work | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Thickness Identification | Testing Temperature, °C | J (j/cm2), min |
| GOST 380-94 GOST 14637-89 | St2ps | Up to 20 | 330-430 | 225 | 33 | - | - | - |
| | St2sp | 20 to 40 | | 215 | 31 | | | |
| EN 10025 | S235JR | Up to 3.0 incl. | 360-510 | 235 (1) | 16 | KV | +20 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| GOST 380-94 GOST 14637-89 | St3Gps | Up to 20 | 370-480 | 245 | 26 | KCU 5-9 | +20 | 78 |
| | | | | | | | -20 | 39 |
| | | | | | | 10-25 | +20 | 69 |
| | St3Gsp | 20 to 40 | | 235 | | | -20 | 29 |
| | | | | | | 26-40 | +20 | 49 |
| | | | | | | | -20 | - |
| GOST 308-94 GOST 14637-89 | St3Gps | Up to 20 | 370-480 | 245 | 26 | KCU 5-9 | +20 | 78 |
| | | | | | | | -20 | 39 |
| | | | | 235 | 25 | | | |
| | | | | | | 10-30 | +20 | 69 |
| | St3Gsp | 20 to 40 | 390-570 | 255 | 23 | | -20 | 29 |
| | | | | | | 31-40 | +20 | 49 |
| | | | | 245 | 24 | | | |
| | | | | | | | -20 | 29 for St3Gsp |
| DIN 17100 | RSt 37-2 | Up to 3.0 incl. | 360-510 | 235(1) | 24 | KV | +20 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| EN 10025 | S235JRG2 | Up to 3.0 incl. | 360-510 | 235(1) | 26 | KV | +20 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| ASTM A570 | Grade 36 | 2.5-6.0 | 365 | 22 | - | - | - | - |
| BS 4360 | 40B | Up to 3.0 incl. | 360-510 | 235(1) | 26 | KV | +20 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| EN 10025 | S235J0 | Up to 3.0 incl. | 360-510 | 235(1) | 26 | KV | 0 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| EN 10025 | S235J2G3 | Up to 3.0 incl. | 360-510 | 235(1) | 26 | KV | -20 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| DIN 17100 | St 37-3 | Up to 3.0 incl. | 360-510 | 235(1) | 24 | KV | 0 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| BS 4360 | 40D | Up to 3.0 incl. | 360-510 | 235(1) | 26 | KV | -20 | 27 |
| | | Over 3.0 | 340-470 | 225 (2) | | | | |
| GOST 380-94 GOST 14637-89 | St4ps | Up to 20 | 410-530 | 265 | 24 | KCU 5-9 | +20 | 78 |
| | | | | | | 10-25 | | 59 |
| | St4sp | 20 to 40 | | 255 | 23 | | | |
| | | | | | | 26-40 | | 39 |
| EN 10025 | S275JR | Up to 3.0 incl. | 430-580 | 275(1) | 22 | KV | +20 | 27 |
| | | Over 3.0 | 410-560 | 265 (2) | | | | |
| DIN 17100 | St 44-2 | Up to 3.0 incl. | 430-580 | 275(1) | 22 | KV | +20 | 27 |
| | | Over 3.0 | 410-560 | 265 (2) | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ASTM A570 | Grade 40 | 2.5-6.0 | 380 | 275 | 21 | - | - | - |
| JIS 3101 | SS 400 | Max 16 | 400-510 | 245 | 21 | - | - | - |
| EN 10025 | S275J0 | Up to 3.0 incl. | 430-580 | 275(1) | 22 | KV | 0 | 27 |
| | | Over 3.0 | 410-560 | 265 (2) | | | | |
| EN 10025 | S275J2G3 | Up to 3.0 incl. | 430-580 | 275(1) | 22 | KV | -20 | 27 |
| | | Over 3.0 | 410-560 | 265 (2) | | | | |
| DIN 17100 | St 44-3 | Up to 3.0 incl. | 430-580 | 275(1) | 22 | KV | 0 | 27 |
| | | Over 3.0 | 410-560 | 265 (2) | | | | |
| BS 4360 | 43C | Up to 3.0 incl. | 430-580 | 275(1) | 22 | KV | 0 | 27 |
| | | Over 3.0 | 410-560 | 265 (2) | | | | |
| GOST 380-94 GOST 14637-89 | St5sp; St5ps | Up to 20 | 490-630 | 285 | 20 | - | - | - |
| | | 20 to 40 | | 275 | 19 | | | |
| DIN 17100 | St 50-2 | Up to 3.0 incl. | 510-680 | 295(1) | 18 | - | - | - |
| | | Over 3.0 | 490-610 | 285 (2) | | | | |
| JIS G3101 | SS 490 | Up 16 | 490-610 | 285 | 19 | - | - | - |
| GOST 380-94 GOST 16523-89 | OK300V, St1, St2 | Up to 2.0 incl. | 300-480 | 215 | 21 | - | - | - |
| | | Over 2.0 | | | 23 | | | |
| | OK360I, St3 | Up to 2.0 incl. | 360-530 | 235 | 20 | - | - | - |
| | | Over 2.0 | | | 22 | | | |
| | OK400I, St4, St5sp, St5ps | Up to 2.0 incl. | 400-680 | 265 | 18 | - | - | - |
| | | Over 2.0 | | | 19 | | | |

**General-purpose rolled products**

Hot-rolled products of commercial quality carbon steel (with carbon content not more than 0.15%) are manufactured in conformity with ASTM A569/A569M, ASTM A635/A635M, DIN 1614 g.1 and JIS G3131. They are designed for manufacturing items by bending, moderate forming or stamping as well as by welding.

Range of products

| Standard | Steel Grade | Thickness, mm | Width, mm | Tolerances as per dimensions and shape of rolled products |
|---|---|---|---|---|
| ASTM A569/A569M | 1008, 1010, 1015 | Over 1.2-12.0, incl. | 1219 | A563/A563M, A749/A749M, A568/A568M |
| ASTM A635/A635M | 1008 | 4.5-12.0 | Over 1200 | ASTM A635/A635M |
| | | 6.0-12.0 | 300-1200 | Rolled product delivery within 50% tolerance field is provided for 90% of the strip length, if so required by a customer |
| DIN 1614 G.1 | St22 | DIN 1016 | DIN 1016 | DIN 1016 |
| JIS G3131 | SPNC | 1.2-12.0 | 950-1850 | JIS G3131 |

**According to ASTM A659/A659M.**

Hot-rolled product of commercial quality carbon steel (carbon content: from 0.16 to 0.25%, max.) to be produced according to ASTM A659/A659M.

To be delivered in coils or cut to length.

Carbon content may vary from 0.15 to 0.25 %, Manganese content should not exceed 0.90%.

The rolled products are to be ordered as per chemical composition.

**SPECIALIZATION OF MILLS**

**Mill 1700**

Thickness Tolerances (for steel grades St2, St3ps, St3sp)

| Strip Dimensions (range), mm | | Thickness Tolerance, mm | | | Width Tolrerance, mm | |
|---|---|---|---|---|---|---|
| Thickness | Width | Conventional | Stringent | | Strip width: 900-1000 mm | Strip width: 1050-1500 mm |
| | | | Strip width: 900-1100 mm | Strip width: 1150-1500 mm | | |
| 0.8-1.49 | 900-1100 | ±0.18<br>(for steel grade 08ps) | - | - | +30 | +30 |
| 1.5-1.99 | 900-1250 | ±0.18 | ±0.14 | ±0.18 | +20 | +30 |
| 2.0-2.29 | 900-1250 | ±0.19 | ±0.14 | ±0.19 | +20 | +30 |
| 2.3-2.59 | 900-1250 | ±0.20 | ±0.15 | ±0.20 | +20 | +30 |
| 2.6-2.99 | 900-1350 | ±0.21 | ±0.16 | ±0.21 | +20 | +30 |
| 3.0-3.59 | 900-1400 | ±0.22 | ±0.17 | ±0.22 | +20 | +30 |
| 3.6-3.99 | 900-1400 | ±0.24 | ±0.18 | ±0.24 | +20 | +30 |
| 4.0-5.49 | 900-1450 | +.30<br>-0.50 | +0.21<br>-0.35 | +0.30<br>-0.50 | +20 | +30 |
| 5.5-6.0 | 900-1500 | +0.25<br>-0.60 | +0.18<br>-0.42 | +0.25<br>-0.60 | +20 | +30 |

**Mill 2000**

Steel strip of the following dimensions can be produced at Mill 2000:

Thickness h: 1.2 to 16 mm,

Width a: 930 to 1830 mm,

Width tolerance: ±20 mm,

Coil mass: 10 to 36 t,

Coil ID after rolling mill: 850 (±40) mm, after slitting line No.1: 750 (±40) mm.

Dimensions of Strip and Sheet

| Thickness, mm | Maximal Width, mm | |
|---|---|---|
| | At $\sigma_B$ £450 N/mm2 | At $\sigma_B$ >450 N/mm2 |
| Up to 1.5 incl. | 1250 | 1200 |
| Over 1.5-1.8 incl. | 1300 | 1250 |
| Over 1.8-2.0 incl. | 1400 | 1300 |
| Over 2.0-2.5 incl. | 1500 | 1350 |
| Over 2.5-3.5 incl. | 1550 | 1400 |
| Over 3.5-3.9 incl. | 1600 | 1500 |
| Over 3.9-4.5 incl. | 1835 | 1650 |
| Over 4.5 incl. | - | 1850 |

Production Capacity of Slitting Line No.1

| Thickness, mm | Maximal number of cuts | Number of mults |
|---|---|---|
| 1.2 to 4.0 incl. | 11 | 12 |
| Over 4.0 to 5.0 incl. | 10 | 11 |
| Over 5.0 to 6.0 incl. | 8 | 9 |
| Over 6.0 to 8.0 incl. | 4 | 5 |

Thickness Tolerances (under GOST 19903-74)

| Thickness, mm | Sheet or Strip width, mm | | | |
|---|---|---|---|---|
| | Up to 1500 incl. | | Over 1500 | |
| | stringent | conventional | stringent | conventional |
| 1.2-1.3 incl. | ±0.12 | ±0.15 | - | - |
| Over 1.3-1.4 incl. | ±0.12 | ±0.18 | - | - |
| Over 1.4-1.6 incl. | ±0.13 | ±0.18 | - | - |
| Over 1.6-1.8 incl. | ±0.14 | ±0.18 | - | - |
| Over 1.8-2.0 incl. | ±0.16 | ±0.18 | ±0.17 | ±0.20 |
| Over 2.0-2.2 incl. | ±0.17 | ±0.19 | ±0.18 | ±0.20 |
| Over 2.2-2.5 incl. | ±0.18 | ±0.20 | ±0.19 | ±0.21 |
| Over 2.5-3.0 incl. | ±0.19 | ±0.21 | ±0.20 | ±0.22 |
| Over 3.0-3.5 incl. | ±0.20 | ±0.22 | ±0.22 | ±0.24 |
| Over 3.5-3.9 incl. | ±0.22 | ±0.24 | ±0.24 | ±0.26 |
| Over 3.9-5.5 incl. | +0.10<br>-0.50 | +0.30<br>-0.50 | +0.20<br>-0.50 | +0.40<br>-0.50 |
| Over 5.5-7.5 incl. | +0.10<br>-0.60 | -0.25<br>-0.60 | +0.20<br>-0.60 | +0.40<br>-0.60 |
| Over 7.5-10.5 incl. | +0.20<br>-0.80 | +0.30<br>-0.80 | +0.20<br>-0.80 | +0.35<br>-0.80 |
| Over 10.0-12.0 incl. | +0.20<br>-0.80 | +0.30<br>-0.80 | +0.30<br>-0.80 | +0.40<br>-0.80 |
| Over 12.0-16.0 incl. | +0.20<br>-0.80 | - | +0.30<br>-0.80 | - |

**Mill 2800**

Thickness Tolerances (under GOST 19903-74)

| Thickness, mm | Width of sheet, strip, mm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1300-1500 | | 1501-1700 | | 1701-1800 | | 1801-2000 | | 2001-2300 | | 2301-2500 | |
| | Conventional | stringent | conventional | stringent | conventional | stringent | conventional | stringent | conventional | stringent | conventional | stringent |
| 6.35 | | | +0.40 -0.60 | | +0.40 -0.60 | | +0.40 -0.60 | | +0.45 -0.60 | | | |
| 7.5 | - | - | +0.40 -0.60 | +0.30 -0.50 | +0.40 -0.60 | +0.30 -0.50 | +0.40 -0.60 | +0.30 -0.50 | +0.45 -0.60 | +0.35 -0.50 | - | - |
| 7.51-10.0 | +0.30 -0.80 | +0.25 -0.80 | +0.35 -0.80 | +0.25 -0.60 | +0.35 -0.80 | +0.25 -0.60 | +0.35 -0.80 | +0.25 -0.60 | +0.45 -0.80 | +0.35 -0.60 | +0.60 -0.80 | +0.50 -0.60 |
| 10.1-12.0 | +0.30 -0.80 | +0.25 -0.60 | +0.40 -0.80 | +0.30 -0.60 | +0.40 -0.80 | +0.30 -0.60 | +0.40 -0.80 | +0.30 -0.60 | +0.50 -0.80 | +0.40 -0.60 | +0.70 -0.80 | +0.55 -0.60 |
| 12.1-25.0 | +0.20 -0.80 | +0.15 -0.60 | +0.30 -0.80 | +0.25 -0.60 | +0.40 -0.80 | +0.30 -0.60 | +0.60 -0.80 | +0.45 -0.60 | ±0.80 | ±0.60 | ±0.80- | ±0.60 |
| 25.1-30.0 | +0.20 -0.90 | +0.15 -0.70 | +0.30 -0.90 | +0.25 -0.70 | +.040 -0.90 | +0.30 -0.70 | +0.60 -0.90 | +0.45 -0.70 | +0.80 -0.90 | +0.60 -0.70 | ±0.90- | ±0.70 |
| 30.1-34.0 | +0.30 -1.00 | +0.25 -0.75 | +0.30 -1.00 | +0.25 -0.75 | +.040 -1.00 | +0.30 -0.75 | +0.50 -1.00 | +0.40 -0.75 | +0.80 -1.00 | +0.60 -0.75 | +0.90 -1.00 | +0.70 -0.75 |
| 34.1-40.0 | +0.40 -1.10 | +0.30 -0.80 | +0.50 -1.10 | +0.40 -0.80 | +0.60 -1.10 | +0.45 -0.80 | +0.70 -1.10 | +0.55 -0.80 | +0.90 -1.10 | +0.70 -0.80 | +1.00 -1.10 | +0.75 -0.80 |
| 40.1-50.0 | +0.50 -1.20 | +0.40 -0.90 | +0.60 -1.20 | +0.50 -0.90 | +0.70 -1.20 | +0.55 -0.90 | +0.80 -1.20 | +0.60 -0.90 | +1.00 -1.20 | +0.75 -0.90 | +1.10 -1.20 | +0.80 -0.90 |

Width Tolerances (under GOST 19903-74)

| Thickness, mm | Sheet or Strip Width, mm | | | |
|---|---|---|---|---|
| | 1300-1500 | | 1501-2500 | |
| | Stringent | Conventional | Stringent | Conventional |
| 7.5-16.0 | +10 | +10 | +15 | +15 |
| 16.1-50.0 | +25 | +25 | +25 | +25 |

**Mill 5000**

Thickness Tolerances (under GOST 19903-74)

| Thickness, mm | Product Width, mm | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Over 1000 to 1200 | Over 1200 to 1500 | Over 1500 to 1700 | Over 1700 to 1800 | Over 1800 to 2000 | Over 2000 to 2300 | Over 2300 to 2500 | Over 2500 to 2600 | Over 2600 to 2800 | Over 2800 to 3000 | Over 3000 to 3200 | Over 3200 to 3400 | Over 3400 to 3600 | Over 3600 to 3800 |
| Over 12.0 to 25.0 | +0.2 -0.8 | +0.2 -0.8 | +0.3 -0.8 | +0.4 -0.8 | +0.6 -0.8 | ±0.8- | ±0.8- | +1.0 -0.8 | +1.1 -0.8 | +1.2 -0.8 | +1.3 -0.8 | +1.4 -0.8 | - | - |
| Over 25.0 to 30.0 | +0.2 -0.9 | +0.2 -0.9 | +0.3 -0.9 | +0.4 -0.9 | +0.6 -0.9 | +0.8 -0.9 | ±0.9- | +1.0 -0.9 | +1.1 -0.9 | +1.2 -0.9 | +1.3 -0.9 | +1.4 -0.9 | +1.5 -0.9 | +1.6 -0.9 |
| Over 30.0 to 34.0 | +0.2 -1.0 | +0.3 -1.0 | +0.3 -1.0 | +0.4 -1.0 | +0.5 -1.0 | +0.8 -1.0 | +0.9 -1.0 | ±1.0 | +1.2 -1.0 | +1.3 -1.0 | +1.4 -1.0 | +1.5 -1.0 | +1.6 -1.0 | +1.7 -1.0 |
| Over 34.0 to 40.0 | +0.3 -1.1 | +0.4 -1.1 | +0.5 -1.1 | +0.6 -1.1 | +0.7 -1.1 | +0.9 -1.1 | +1.0 -1.1 | ±1.1 | +1.3 -1.1 | +1.4 -1.1 | +1.5 -1.1 | +1.6 -1.1 | +1.7 -1.1 | +1.8 -1.1 |
| Over 40.0 to 50.0 | +0.4 -1.2 | +0.5 -1.2 | +0.6 -1.2 | +0.7 -1.2 | +0.8 -1.2 | +1.0 -1.2 | +1.1 -1.2 | ±1.2 | +1.4 -1.2 | +1.5 -1.2 | +1.6 -1.2 | +1.7 -1.2 | +1.8 -1.2 | +1.9 -1.2 |
| Over 50.0 to 60.0 | +0.6 -1.3 | +0.6 -1.3 | +0.7 -1.3 | +0.8 -1.3 | +0.9 -1.3 | +1.0 -1.3 | +1.1 -1.3 | +1.2 -1.3 | +1.4 -1.3 | +1.5 -1.3 | +1.6 -1.3 | +1.7 -1.3 | +1.8 -1.3 | +1.9 -1.3 |
| Over 60.0 to 70.0 | - | +0.7 -1.6 | +0.8 -1.6 | +0.9 -1.6 | +1.0 -1.6 | +1.1 -1.6 | +1.2 -1.6 | +1.3 -1.6 | +1.4 -1.6 | +1.5 -1.6 | ±1.6 | +1.7 -1.6 | +1.8 -1.6 | +1.9 -1.6 |
| Over 70.0 to 80.0 | - | +0.7 -2.2 | +0.8 -2.2 | +0.9 -2.2 | +1.0 -2.2 | +1.1 -2.2 | +1.2 -2.2 | +1.3 -2.2 | +1.4 -2.2 | +1.5 -2.2 | +1.6 -2.2 | +1.7 -2.2 | +1.8 -2.2 | +1.9 -2.2 |
| Over 80.0 to 90.0 | - | +0.8 -2.5 | +0.9 -2.5 | +1.0 -2.5 | +1.1 -2.5 | +1.2 -2.5 | +1.3 -2.5 | +1.4 -2.5 | +1.5 -2.5 | +1.6 -2.5 | +1.7 -2.5 | +1.8 -2.5 | +1.9 -2.5 | +2.0 -2.5 |
| Over 90.0 to 100.0 | - | +0.9 -2.7 | +1.0 -2.7 | +1.1 -2.7 | +1.2 -2.7 | +1.3 -2.7 | +1.4 -2.7 | +1.5 -2.7 | +1.6 -2.7 | +1.7 -2.7 | +1.8 -2.7 | +1.9 -2.7 | +2.0 -2.7 | +2.1 -2.7 |
| Over 100.0 to 115.0 | - | +1.1 -3.1 | +1.2 -3.1 | +1.3 -3.1 | +1.4 -3.1 | +1.5 -3.1 | +1.6 -3.1 | +1.7 -3.1 | +1.8 -3.1 | +1.9 -3.1 | +2.0 -3.1 | +2.1 -3.1 | +2.2 -3.1 | +2.3 -3.1 |
| Cover 115.0 to 125.0 | - | +1.4 -3.5 | +1.5 -3.5 | +1.6 -3.5 | +1.7 -3.5 | +1.8 -3.5 | +1.9 -3.5 | +2.0 -3.5 | +2.1 -3.5 | +2.2 -3.5 | +2.3 -3.5 | +2.4 -3.5 | +2.5 -3.5 | +2.6 -3.5 |
| Over 125.0 to 140.0 | - | +1.6 -3.8 | +1.7 -3.8 | +1.8 -3.8 | +1.9 -3.8 | +2.0 -3.8 | +2.1 -3.8 | +2.2 -3.8 | +2.3 -3.8 | +2.4 -3.8 | +2.5 -3.8 | +2.6 -3.8 | +2.8 -3.8 | +2.9 -3.8 |
| Over 14.0 to 160.0 | - | +1.9 -4.2 | +2.0 -4.2 | +2.1 -4.2 | +2.2 -4.2 | +2.3 -4.2 | +2.4 -4.2 | +2.5 -4.2 | +2.6 -4.2 | +2.7 -4.2 | +2.8 -4.2 | +2.9 -4.2 | +3.0 -4.2 | +3.1 -4.2 |

Width Tolerances

| Thickness, mm | Plate Width : 1700-3500 mm | |
|---|---|---|
| | Stringent | conventional |
| 12.0-160.0 | +10 | +20 |