EDELSTAHL
SCHNEIDTECHNIK
Fast - Precise - Reliable

MANUFACTURING INSTRUCTIONS

All information for the perfect cut

MANUFACTURING INSTRUCTIONS FOR SHEET METAL CUTTINGS

General

Please refer to the *DIN EN ISO 9013* standard, which lists the information required for the production and ordering of sheet metal blanks. We expect our customers to take this standard into account when placing orders. Surface roughness and dimensional tolerances are not as specified in *DIN EN ISO 9013* but according to EST specifications.

Drawings

All standards and tolerances shown on the drawings cannot be confirmed and must be agreed upon separately.

Any required machining allowances must be specified or taken into account in the drawings.

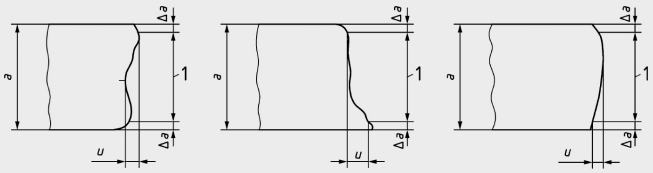
Complaints due to insufficient or incorrect dimensioning of the drawings cannot be accepted.

Distortion

Unless otherwise stated, all parts are not flattened. Distortion due to the release of residual stresses during the manufacturing process cannot be controlled. Flatness tolerances of the raw material may be exceeded as a result. Lateral distortion or distortion of non-dimensionally stable parts is also possible.

Perpendicularity tolerance

Please note that according to *DIN EN ISO 9013*, perpendicularity (cutting angle) can be either positive or negative. See the following figure:



Source: DIN EN ISO 9013

Perpendicularity according to DIN EN ISO 9013 range 5 for plasma, range 4 for waterjet production cut, range 3 for laser, waterjet medium cut and waterjet fine cut.

Range	Perpendicularity tolerance *u* in mm
3	Sheet thickness * 0.01 + 0.4
4	Sheet thickness * 0.02 + 0.8
5	Sheet thickness * 0.035 + 1.2

Machining allowances

Please note the following minimum machining allowances for surfaces requiring rework. If these machining allowances are not met for parts requiring rework, no reimbursement will be possible in the event of a complaint.

Sheet thickness	Minimum machining allowance
0 – 20 mm	+2 mm per machining area
21 – 50 mm	+3 mm per machining area
51 – 80 mm	+5 mm per machining area
81 – 100 mm	+7 mm per machining area
101 – 130 mm	+10 mm per machining area
131 – 150 mm	+15 mm per machining area

Thickness tolerance and surfaces

Thickness tolerance and sheet surface according to the available raw material.

The parts are not pickled/blasted after cutting, so surface discoloration is to be expected.

Scratch-free surfaces cannot generally be guaranteed. Surface defects (discontinuities) can be corrected by partial repair grinding in accordance with *DIN EN ISO 10163*. Any burrs are roughly removed, but the cut surface is not machined – any subsequent processing of the cut surface must be carried out by the customer.

Further processing

Further processing (machining, welding, bending, ...) cannot be offered.

If the supplied parts, and in particular the cut edges and cut surfaces, are to be used as welding edges and surfaces without further processing, it is essential to check whether the surfaces meet the requirements without further processing and deburring.

Part labelling

Unless otherwise stated for the respective item, the parts are not hard stamped or engraved but marked with labels or felt pen.

DIMENSIONAL TOLERANCES FOR NOMINAL DIMENSIONS OF LENGTH AND WIDTH

Plasma

Nominal reference dimension of the top edge, plus/minus perpendicularity tolerance (cutting angle). The perpendicularity tolerance must be treated separately from the tolerances for the nominal dimensions of the workpiece.

Valid for a maximum length-to-width ratio of 4:1 and a minimum circumference of 350 mm. Tolerances for other dimensions must be agreed upon separately.

The specified tolerances do not apply to the beginning and end of the cut.

Sheet thickness	Dimension	Tolerance outer contour // inner contour
0 – 54 mm	0 – 2,000 mm	-0/+3 mm // -3/+0 mm
0 – 54 mm	2,001 – 6,000 mm	-0/+5 mm // -5/+0 mm
0 – 54 mm	6,001 – 12,000 mm	-0/+8 mm // -8/+0 mm
55 – 99 mm	0 – 2,000 mm	-0/+5 mm // -5/+0 mm
55 – 99 mm	2,001 – 6,000 mm	-0/+8 mm // -8/+0 mm
55 – 99 mm	6,001 – 12,000 mm	-0/+10 mm // -10/+0 mm
100 – 150 mm	0 – 2,000 mm	-0/+10 mm // -10/+0 mm
100 – 150 mm	2,001 – 6,000 mm	-0/+12 mm // -12/+0 mm
100 – 150 mm	6,001 – 12,000 mm	-0/+15 mm // -15/+0 mm

Waterjet

Nominal reference dimension of the top edge, plus/minus perpendicularity tolerance (cutting angle). The perpendicularity tolerance must be treated separately from the tolerances for the nominal dimensions of the workpiece.

Sheet thickness	Cutting quality	Tolerance
0 – 60 mm	Fine cut	±0.50 mm
61 – 150 mm	Fine cut	±1.00 mm
0 – 60 mm	Medium cut	±1.00 mm
61 – 150 mm	Medium cut	±1.50 mm
0 – 60 mm	Production cut	±1.50 mm
61 – 150 mm	Production cut	±2.00 mm

Laser

Nominal reference dimension of the top edge, plus/minus perpendicularity tolerance (cutting angle). The perpendicularity tolerance must be treated separately from the tolerances for the nominal dimensions of the workpiece.

Thickness in mm	Dimension in mm							
	< 10	< 35	< 125	< 315	< 1,000	< 2,000	< 4,000	< 6,000
1 – 3	±0.15	±0.20	±0.25	±0.25	±0.35	±0.40	±0.65	±1.00
4 – 6	±0.20	±0.25	±0.25	±0.30	±0.40	±0.45	±0.70	±1.10
8 – 10	±0.25	±0.30	±0.30	±0.35	±0.45	±0.55	±0.75	±1.25
11 – 15	±0.30	±0.35	±0.40	±0.45	±0.55	±0.65	±0.85	±1.50
16 – 20	±0.40	±0.40	±0.45	±0.55	±0.75	±0.85	±1.20	±1.90
21 – 25	±0.45	±0.50	±0.60	±0.70	±0.90	±1.10	±1.60	±2.40
26 – 32	-	±0.70	±0.70	±0.80	±1.00	±1.60	±2.25	±3.00
33 – 50	-	±0.70	±0.70	±0.80	±1.00	±1.60	±2.50	±3.80
51 – 60	-	±1.30	±1.30	±1.40	±1.70	±2.20	±3.10	±4.40

Saw

Sheet thickness	Dimension	Tolerance
15 – 150 mm	Up to 6,000 mm	-0/+3 mm

REGULAR TRANSPORT TIMES

Country	Regular transport time
Austria	2 – 3 Working days
Benelux	1 – 2 working days
Czech Republic	2 – 3 Working days
Finland	4 – 5 Working days
France	3 – 4 Working days

Country	Regular transport time
Germany	1 – 2 Working days
Hungary	3 – 4 Working days
Ireland	3 – 5 Working days
Italy	3 – 4 Working days
Poland	2 – 3 Working days

Country	Regular transport time
Portugal	5 – 6 Working days
Spain	5 – 6 Working days
Switzerland	2 – 3 Working days
United Kingdom	3 – 5 Working days
Other countries on request	

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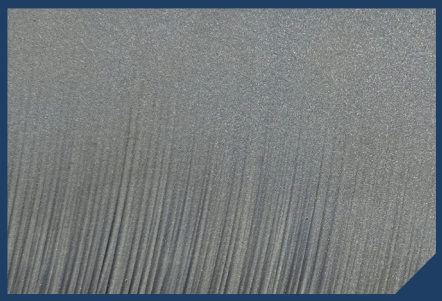
EXAMPLES OF CUTTING QUALITIES

Plasma – Production cut (standard)

Plasma – Precision cut



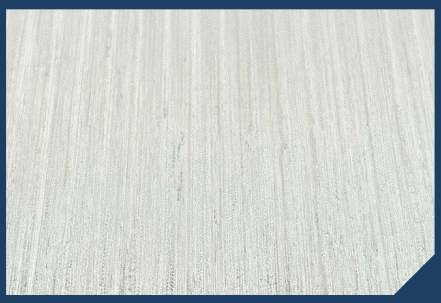
Waterjet – Production cut (standard)

Waterjet – Medium cut

Waterjet – Fine cut

Laser – Sheet thickness 60 mm

Laser – Sheet thickness 15 mm



Saw

EST manufacturing instructions, as of April 1, 2025, valid until revoked

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