

Sheet Metal Flat Pattern

Sample document with complete example values. It shows the report the purchased export produces for YOUR input - it is not itself a report for any part.

Project: Sample project

Part/Position: no real part

Prepared by: Sample, not released

Flat length L = 76.163 mm (DIN 6935 (correction value v))

Inputs

Sheet thickness s 2 mm
Method DIN 6935 (correction value v)
Number of bends 1

Segments and correction values

Segment	Input	k (DIN)	K (ANSI)	Arc length in mm	Correction value v in mm	Contribution in mm
Leg 1	a = 30 mm					+30
Bend 1	r = 2 mm, $\beta = 90^\circ$, r/s = 1	0.65	0.325	4.163	3.837	-3.837
Leg 2	a = 50 mm					+50

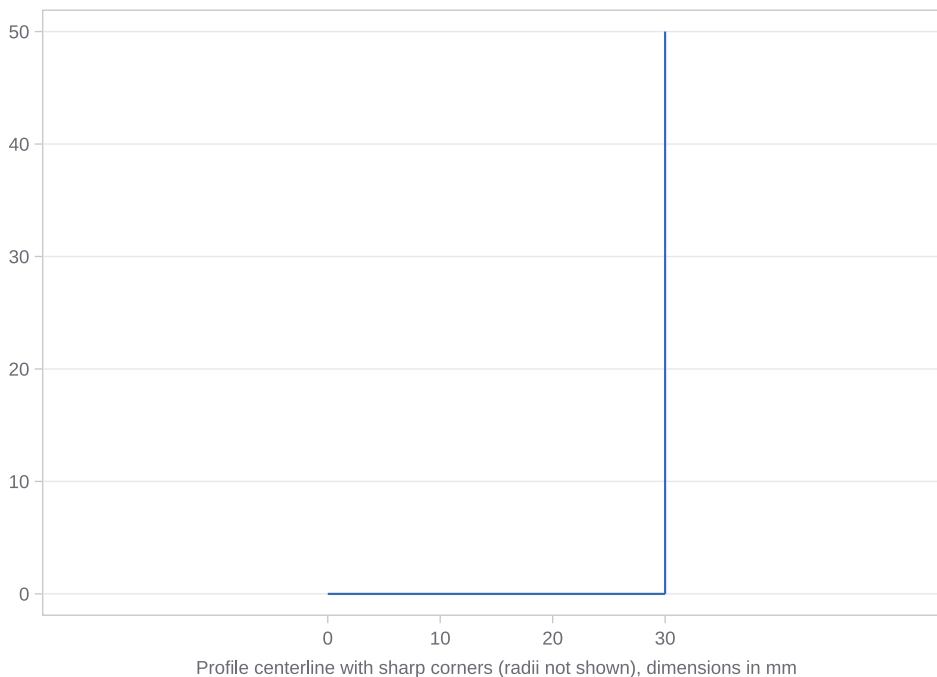
Result

Sum of leg lengths 80 mm
Sum of deductions -3.837 mm
Flat length L 76.163 mm

Manufacturing criteria

Criterion	Value	Limit	Status
Bend 1: radius ratio r/s (crack risk)	1	≥ 0.5	● OK
Leg 1: minimum leg length	30 mm	$\geq 4 \cdot s = 8 \text{ mm}$	● OK
Leg 2: minimum leg length	50 mm	$\geq 4 \cdot s = 8 \text{ mm}$	● OK

Profile sketch



Calculation basis

Flat length per DIN 6935: during cold bending, the length-neutral fiber shifts toward the inner radius; its position is described by the correction factor $k = 0.65 + 0.5 \cdot \lg(r/s)$, limited to the range 0 to 1. For each bend, a correction value v is subtracted from the sum of the leg lengths: $L = \text{sum of the legs} - \text{sum of the correction values}$. The formula for v distinguishes between opening angles up to 90° (corner dimensions) and above 90° up to 165° (apex dimensions); above 165° , $v = 0$.

The K-factor method (international, CAD systems) computes the bend allowance $BA = \pi \cdot (\alpha/180^\circ) \cdot (r + K \cdot s)$ on the shifted neutral fiber and the bend deduction $BD = 2 \cdot OSSB - BA$. The two scales are related by $K = k/2$. The criteria guide values ($r/s \geq 0.5$ against crack risk, minimum leg length 4·s as half the die V-opening) are practical rules of thumb, not normative requirements.

About this sample

All values on these pages come from a freely chosen example calculation and belong to no real part. The purchased export contains the same sections with your input, your header data (project, part, prepared by) and as searchable text. Pricing and scope: maschinenbaurechner.de/en/pricing

Note: The results are design and orientation aids. They do not replace independent verification, calculation and approval by a qualified person. The terms of use at maschinenbaurechner.de apply.