Strip Layout: Parts per Strip and Material Utilisation

Parts per strip and material utilisation for blanking from strip length and width, part length along the strip, part area and the bridge (web) between parts.

Method: Strip layout: n = ⌊(L − b)/(l + b)⌋; utilisation = n A/(L W)

Input parameters

Unit system: SI

Parameter	Value	Unit
Strip length	2.5000	m
Strip width	70.000	mm
Part length along the strip	60.000	mm
Bridge between parts and at the ends	3.0000	mm
Area of one part	2,800.0	mm²

Calculated results

Parameter	Value	Unit
Parts per strip	39.000	
Material utilisation	62.400	%
Pitch l_p + b	63.000	mm

Formula and method

$$n = \left\lfloor \frac{L_s - b}{l_p + b} \right\rfloor, \quad \eta = \frac{n A_p}{L_s W_s}$$

Variables

L_s	Strip length	m
W_s	Strip width	m
l_p	Part length along the strip	m
b	Bridge between parts and at the ends	m
A_p	Area of one part	m²
n	Parts per strip	-
η	Material utilisation	-
p	Pitch l_p + b	m

Method and standards

Layout geometry.

Assumptions and limits

- Single-row layout.
- The part width and the side bridges are not inputs: choose the strip width to include them. The calculator warns when the part area exceeds the pitch times the strip width.

References

- Strip layout: n = ⌊(L − b)/(l + b)⌋
- utilisation = n A/(L W)

Report details

Report reference	FCC-1PMG-J35B (the same inputs always give the same reference)
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Release checks	2 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/mechanical/manufacturing/strip-layout-utilisation

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.