Floor and Wall Tiles Quantity

Number of tiles and boxes for a floor or wall area from the tile size, joint width and wastage, with adhesive or mortar bed volume.

Method: Tiles = area / ((l + j)(w + j)) (Common site practice (quantity estimating))

Input parameters

Unit system: SI

Parameter	Value	Unit
Area to tile	40.000	m²
Tile length	600.00	mm
Tile width	600.00	mm
Joint width	3.0000	mm
Wastage for cutting and breakage	8.0000	%
Tiles per box	4.0000	
Bed thickness (mortar or adhesive)	20.000	mm

Calculated results

Parameter	Value	Unit
Tiles needed	119.00	
Boxes (rounded up)	30.000	
Bed volume	0.80000	m³

Formula and method

$$N = \frac{A}{(l+j)(w+j)}(1+k_w)$$

Variables

A	Area to tile	m²
l	Tile length	m
w	Tile width	m
j	Joint width	m
k_w	Wastage for cutting and breakage	-
n_b	Tiles per box	-
t_b	Bed thickness (mortar or adhesive)	m
N	Tiles needed	-
N_b	Boxes (rounded up)	-
V_b	Bed volume	m³

Method and standards

Area divided by tile pitch area.

Assumptions and limits

- Rectangular tiles.

References

• Tiles = area / ((l + j)(w + j)) (Common site practice (quantity estimating))

Report details

Report reference	FCC-ZVVC-QM4K (the same inputs always give the same reference)
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Calculator	Floor and Wall Tiles Quantity
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Software release	FireCAD Calc, release of 17 November 2026
Release checks	3 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/civil/quantities/tile-quantity

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.