GSM and Weight per Metre Converter (g/m², kg/m, lb/ft)

Convert an area density between g/m², kg/m², g/dm² and lb/ft², and a linear density between kg/m, g/m, lb/ft and tex, for sheets, fabrics, paper, cables and bars.

Method: Unit definitions per NIST SP 811 and the SI Brochure (exact where defined)

Input parameters

Unit system: SI

Parameter	Value	Unit
Mass per area (choose its unit)	80.000	g/m²
Mass per length (choose its unit)	1.0000	kg/m

Calculated results

Parameter	Value	Unit
g/m² (GSM)	80.000	g/m²
kg/m²	0.080000	kg/m²
g/dm²	0.80000	g/dm²
lb/ft²	0.016385	lb/ft²
kg/m	1.0000	kg/m
g/m	1,000.0	g/m
lb/ft	0.67197	lb/ft
tex (g/km)	1,000,000	tex

Notes for this case

• GSM (grams per square metre) is the usual basis for paper, board and fabrics; 1 lb/ft² is 4.882 kg/m². Linear density in kg/m is used for bars, sections, cables and pipes (1 lb/ft = 1.488 kg/m), and in tex (grams per kilometre) for yarns.

Formula and method

$$1\ \mathrm{lb/ft} = 1.48816\ \mathrm{kg/m}, \quad 1\ \mathrm{lb/ft^2} = 4.88243\ \mathrm{kg/m^2}$$

Variables

w_A	Mass per area (choose its unit)	kg/m²
w_L	Mass per length (choose its unit)	kg/m

Method and standards

Density units.

Assumptions and limits

- Exact factors.

References

Unit definitions per NIST SP 811 and the SI Brochure (exact where defined)

Report details

Report reference	FCC-GZYB-306S (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/general/unit-conversions/gsm-weight-per-metre-converter

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.