

C Purlins

C purlins are lipped channel sections roll-formed from pre-galvanized high-strength strip, used as simply supported roof purlins and wall girts on steel buildings, as eaves beams and as framing members wherever a symmetric section that sits flat on a cleat is wanted. We manufacture them at Dilovası in web depths from 100 to 300 mm and thicknesses 1.5–3.0 mm from S280GD and S350GD Z275 strip, punched with bolt, sag-rod and bracing holes to the fabricator's drawing, in lengths to 13.5 m.

Web 100–300 mm	1.5–3.0 mm	S280GD / S350GD Z275	Punched to drawing	Lengths to 13.5 m
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A C purlin is the honest workhorse of the single-span roof: it bolts flat to a cleat, it can be used the same way up on either slope, and it does not need the overlap detailing that a Z demands. For bays up to about 7.5 m it is usually the cheaper answer.

GRADES, STANDARDS AND TOLERANCES

Grade / standard	Yield (MPa)	Note
S280GD+Z275 (EN 10346)	280	standard purlin strip; the stock grade
S350GD+Z275	350	higher-strength purlins, longer spans
S450GD+Z275	450	to order; maximum span per kg
DX51D+Z140 / Z275	≈ 140 (not guaranteed)	non-structural profiles only
Zinc Z275	—	275 g/m² both sides ≈ 20 µm per side; ZM on request

Section tolerances to EN 10162; zinc Z275 gives 40–60 years indoors and 15–25 years in an unheated building envelope.

C PURLIN SECTION TABLE

Section	Web × flange × lip (mm)	t (mm)	kg/m	I _x (cm⁴)	W _x (cm³)
C100	100 × 50 × 15	1.5	2.7	55	11.0
C120	120 × 50 × 15	1.5 / 2.0	2.9 / 3.9	85 / 110	14.2 / 18.3
C150	150 × 60 × 20	1.5 / 2.0	3.5 / 4.7	160 / 210	21.3 / 28.0
C175	175 × 65 × 20	2.0 / 2.5	5.2 / 6.5	300 / 370	34.3 / 42.3
C200	200 × 70 × 20	2.0 / 2.5	5.8 / 7.2	430 / 530	43.0 / 53.0
C225	225 × 75 × 20	2.0 / 2.5	6.4 / 8.0	590 / 730	52.4 / 64.9
C250	250 × 75 × 25	2.5 / 3.0	8.6 / 10.3	990 / 1 170	79.2 / 93.6
C300	300 × 80 × 25	2.5 / 3.0	9.7 / 11.6	1 550 / 1 830	103 / 122

Nominal values for the section as rolled; effective section properties for design to EN 1993-1-3 are lower and are supplied with the calculation note. Other flange and lip sizes on request.

SPAN GUIDE

Section	0.75 kN/m² total load	1.0 kN/m²	1.5 kN/m²
C150 × 2.0	5.5 m	5.0 m	4.2 m
C175 × 2.0	6.0 m	5.5 m	4.8 m
C200 × 2.0	6.5 m	6.0 m	5.2 m
C200 × 2.5	7.0 m	6.5 m	5.6 m
C250 × 2.5	8.0 m	7.5 m	6.5 m
C300 × 3.0	9.0 m	8.5 m	7.5 m

Loads are total (dead + imposed/snow) on the roof slope; wind uplift, purlin spacing and sag-rod restraint change the result. For bays above 7.5 m or multi-span continuity, see Z purlins.

STANDARDS

EN 10346 — S280GD / S350GD + Z275 strip · EN 1993-1-3 — design of cold-formed members · EN 1090-1 / -2 — CE marking, execution class 2 · EN 10204 3.1