S280GD Galvanized Steel

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0244 · S280GD is the purlin grade of EN 10346: guaranteed yield ≥ 280 MPa, tensile ≥ 360 MPa, elongation ≥ 18 % — the strip that C and Z purlins, side rails, sigma sections and heavier framing are roll-formed from across Europe and the Middle East. Material number 1.0244. We stock it in 1.5–3.0 mm with Z275 (Z140 for indoor use) at Dilovası and run it on our own purlin line; 0.50–1.2 mm to order.

1.0244 | Yield ≥ 280 MPa | Rm ≥ 360 MPa | 1.5–3.0 mm stock | Z275 purlin standard

Every steel-building tender in the Gulf and Africa that lists purlins says "S280GD+Z275" or its old name Fe E 280 G. It is the grade our Z-purlin line runs by default, the one we slit for purlin makers in Iraq and Romania, and the one that sits in stock in the 1.5, 2.0, 2.5 and 3.0 mm gauges a purlin schedule uses.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S
max. % (ladle)	0.20	0.60	1.70	0.10	0.045

Typical heat: C 0.07–0.10, Mn 0.50–0.80.

MECHANICAL PROPERTIES

Property	Requirement	Typical value	Note
Yield strength ReH / Rp0.2	≥ 280 MPa	310–360 MPa	fyb = 280
Tensile strength Rm	≥ 360 MPa	390–450 MPa	
Elongation A80	≥ 18 %	22–28 %	
Bend radius (180°)	1 × t	passes	

EQUIVALENT GRADES

System	Grade	Note
EN 10147 (old)	Fe E 280 G / S280GD+Z	withdrawn
DIN 17162	StE 280 Z	historic
ASTM A653	SS Grade 40 (275 MPa)	Structural Steel
JIS G3302	SGC440	
GB/T 2518	S280GD+Z	

MATCHING THE ZINC CLASS TO THE EXPOSURE

Class	Zinc mass (g/m², both sides)	Thickness per side (µm)	Typical life C3	Where used
Z200	200	≈ 14	9–13 years	C2 rural and dry inland (Anatolia, Iraq interior)
Z275	275	≈ 20	12–18 years	C3 urban and industrial — the common export class
Z350	350	≈ 25	15–22 years	C4 coastal and humid industrial (Gulf, West Africa)

The corrosivity category, not the country, sets the class: a warehouse 30 km inland from Jeddah is C3 and the same building on the corniche is C4–C5. Tell us the site and the design life and we quote the class against it; a wrong class costs more in ten years than the coating premium does today.

STANDARDS

EN 10346:2015 — S280GD+Z, 1.0244 · EN 10143 — tolerances · EN 1993-1-3 — cold-formed design (fyb = 280 MPa) · EN 10204 3.1 · Former EN 10147 Fe E 280 G