S350GD Galvanized Steel

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0529 · S350GD is the high-strength structural galvanized grade of EN 10346: guaranteed yield ≥ 350 MPa, tensile ≥ 420 MPa, elongation ≥ 16 %, bend radius 1.5 × t. Material number 1.0529, old name Fe E 350 G. It is the strip for composite floor decking, long-span and heavy-load purlins, solar mounting structures, racking and light-gauge framing where weight is designed out. We stock it in 0.60–3.0 mm with Z275 at Dilovası and slit it to width.

1.0529 | Yield ≥ 350 MPa | Rm ≥ 420 MPa | 0.60–3.0 mm stock | Z275 · ZM on request

S350GD is the grade that makes cold-formed steel compete with hot-rolled: a Z-purlin over an 8 m bay, a deck that carries 150 mm of concrete over 3.5 m, a solar tracker post that survives a Gulf sandstorm. The steel is a fine-grained micro-alloyed strip that still roll-forms on standard tooling, and it has become our second-largest galvanized stock item after DX51D.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Nb + Ti
max. % (ladle)	0.20	0.60	1.70	0.10	0.045	≤ 0.10 (micro-alloy)

Typical heat: C 0.06–0.10, Mn 0.60–1.20, Nb 0.02–0.04 or Ti 0.03–0.06.

MECHANICAL PROPERTIES

Property	Requirement	Typical value	Note
Yield strength ReH / Rp0.2	≥ 350 MPa	380–420 MPa	fyb = 350
Tensile strength Rm	≥ 420 MPa	450–500 MPa	
Elongation A80	≥ 16 %	19–24 %	
Bend radius (180°)	1.5 × t	passes	

EQUIVALENT GRADES

System	Grade	Note
EN 10147 (old)	Fe E 350 G / S350GD+Z	withdrawn
DIN 17162	StE 350 Z	historic
ASTM A653	SS Grade 50 Class 1 (340 MPa) / HSLAS Gr. 50	near
JIS G3302	SGC490 / SGC570 (near)	
GB/T 2518	S350GD+Z	
EN 10346	S390GD / S420GD / S550GD	higher grades on request

COATING FOR THE HIGHEST STRUCTURAL CLASS

Class	Zinc mass (g/m², both sides)	Thickness per side (µm)	Typical life C3	Where used
Z275	275	≈ 20	12–18 years	the working default for decking and heavy purlins
Z350	350	≈ 25	15–22 years	silo and grain-bin sheet, humid and coastal sites
Z450 / Z600	450 / 600	≈ 32 / 42	20–35 years	ground contact, severe industrial, long design life

At 350 MPa the substrate is already near the roll-forming limit, and a heavy zinc layer narrows it further: keep the inside bend radius at 1.5–2 × t with Z350 and above, and run a first-off through the line before committing a coil. Below Z275 the grade is rarely worth specifying — the strength is bought for exposed structure.

STANDARDS

EN 10346:2015 — S350GD+Z, 1.0529 · EN 10143 — tolerances · EN 1993-1-3 / EN 1994-1-1 — design (fyb = 350 MPa) · EN 10204 3.1 · Former EN 10147 Fe E 350 G

Updated 22 September 2026 · figures are nominal; the mill certificate governs