DX53D Galvanized Steel

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0355 · DX53D is the deep-drawing grade of EN 10346 galvanized steel: Al-killed, very low carbon (≤ 0.10 %, typically 0.02–0.04 %), yield 140–260 MPa, tensile 270–380 MPa, elongation ≥ 30 % with r-values around 1.6, so that cups, cylinders, sinks and complex housings draw in one or two stages without earing or splitting. Material number 1.0355. Coil and sheet 0.40–2.0 mm, Z100–Z275, to order.

1.0355 | Yield 140–260 MPa | A80 ≥ 30 % | r ≈ 1.6 | 0.40–2.0 mm to order

DX53D is where galvanized sheet stops being a construction material and becomes a pressing material: the grade for drawn lamp housings, extractor hoods, water-heater cups and automotive brackets. We source it from Erdemir and EU lines against your part and tonnage, with the minimised-spangle, paint-ready surface a press shop expects.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Ti
max. % (ladle)	0.10	0.50	0.60	0.08	0.030	0.30

Typical heat: C 0.02–0.04, Mn 0.15–0.20, Al 0.03–0.06 (killed).

MECHANICAL PROPERTIES AND DEEP-DRAWING INDICES

Property	Requirement	Typical value	Note
Yield strength Rp0.2	140–260 MPa	160–210 MPa	
Tensile strength Rm	270–380 MPa	290–340 MPa	
Elongation A80	≥ 30 %	34–42 %	
r90 (plastic strain ratio)	not specified	≈ 1.6	DX54D guarantees ≥ 1.6
n90 (hardening exponent)	not specified	≈ 0.20	
Ageing	non-ageing on agreement	6 months	

EQUIVALENT GRADES

System	Grade	Note
EN 10142 (old)	DX53D+Z (EN 10142)	withdrawn 2004
DIN 17162	St 05 Z+Z (EN 10142)	historic German
JIS G3302	SGCD2	
ASTM A653	DDS Type A / Deep Drawing Steel	coating G90 ≈ Z275
GB/T 2518	DX53D+Z	

WHAT THE COATING DOES IN A DEEP DRAW

Class	Zinc mass (g/m², both sides)	Thickness per side (µm)	Typical life C3	Where used
Z100	100	≈ 7	4–6 years	deep-drawn cups, housings and sinks
Z140	140	≈ 10	6–9 years	drawn parts with a painted or enamelled finish
Z200	200	≈ 14	9–13 years	the upper limit for deep drawing — test the die first

The coating is drawn with the steel, so the variable that matters is not mass but the thickness of the brittle intermetallic layer between zinc and substrate. Minimised spangle (M) and surface quality B give the most predictable draw and the best paint adhesion; specify chromate-free passivation if the part is powder-coated afterwards.

STANDARDS

EN 10346:2015 — DX53D+Z, 1.0355 · EN 10143 — tolerances · EN 10204 3.1 · Former EN 10142 / DIN 17162 St 05 Z

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