DC04 Cold Rolled Steel

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0338 · DC04 is the deep-drawing grade of EN 10130 cold-rolled sheet: Al-killed, C ≤ 0.08 %, yield ≤ 210 MPa, tensile 270–350 MPa, elongation ≥ 38 %, guaranteed r90 ≥ 1.6 and n90 ≥ 0.18, non-ageing — the sheet for sinks, cups, cylinders, oil sumps and drawn housings. Material number 1.0338, old name St 14. We stock 0.50–3.0 mm at Dilovası as the drawing grade of the DKP range.

1.0338 | Yield ≤ 210 MPa | A80 ≥ 38 % | r90 ≥ 1.6 · n90 ≥ 0.18 | 0.50–3.0 mm stock

DC04 is the press shop standard: deep enough for a kitchen sink, a filter housing or a gas-bottle half, consistent enough to run a progressive die for a year. It is the drawing grade we keep in stock — most customers who ask for DC03 leave with DC04 because it is on the floor and exceeds the specification.

CHEMICAL COMPOSITION

Element	C	Mn	P	S
max. % (ladle)	0.08	0.40	0.030	0.030

Typical heat: C 0.02–0.04, Mn 0.15–0.25, Al 0.03–0.06 (killed).

MECHANICAL PROPERTIES AND DEEP-DRAWING INDICES

Property	Requirement	Typical value	Note
Yield strength Rp0.2	≤ 210 MPa	140–200 MPa	
Tensile strength Rm	270–350 MPa	280–320 MPa	
Elongation A80	≥ 38 %	40–46 %	
r90	≥ 1.6	1.7–2.0	guaranteed
n90	≥ 0.18	0.19–0.22	guaranteed
Ageing	non-ageing 6 months	guaranteed	

EQUIVALENT GRADES

System	Grade	Note
DIN 1623 (old)	St 14	historic German
EN 10130 (1991)	Fe P04	previous edition
JIS G3141	SPCE	
ASTM A1008	DDS Type A	
GB/T 5213	DC04	

SURFACE DESIGNATIONS THAT MATTER FOR DEEP DRAWING

Code	Meaning	Ra (µm)	Typical use
A	normal surface — minor defects (pores, scratches, slight marks) allowed	—	general fabrication, hidden parts
B	best surface — the better side free of defects that impair a uniform paint finish	—	visible painted or plated parts
b (bright)	smooth roll finish	≤ 0.4	chrome plating, decorative
g (semi-bright)	standard finish	0.4–0.9 (typ. 0.6–1.9)	painting, powder coating
m (matt)	shot-blasted rolls	0.6–1.9	deep drawing, paint adhesion
r (rough)	heavy texture	> 1.6	special
oiling	light rust-preventive oil both sides (standard); dry or heavy oil on request	—	

Deep drawing wants m finish and a controlled oil film; ask for surface B only where the drawn face stays visible, because B costs a yield-sorted coil and slows the mill slot. Heavy oiling is available for multi-stage tooling.

STANDARDS

EN 10130:2006 — DC04, 1.0338 · EN 10131 — tolerances · EN 10204 3.1 · Former DIN 1623 St 14 / EN 10130 Fe P04