ST52 Seamless Pipe

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ST52 seamless pipe — E355 (1.0580) in today's EN designation — is the 355 MPa seamless mechanical tube of machine building: hydraulic and pneumatic cylinders (honed or skived-roller-burnished bore), piston rods, axles, rollers, bushings, crane and construction-machine components, and heavy-wall tube for machining. We supply hot-finished E355 to EN 10297-1 in Ø 33.7–406 mm and cold-drawn E355+SR / +N to EN 10305-1 in Ø 20–250 mm, plus honed cylinder tube H8, from stock partners and EU / Asian mills.

E355 · 1.0580 · ST52-3 | Yield ≥ 355 MPa | Ø 20–406 mm | Hot-finished / cold-drawn / honed | Hydraulic cylinder tube

Every hydraulic cylinder on an excavator, press or tipper starts life as ST52 seamless tube — honed to a mirror bore, cut to stroke length. Machine builders in Turkey still call it ST52; the certificate says E355. We stock the cylinder sizes and source the rest.

SEAMLESS PIPE — STOCKED SIZES (KG/M)

NPS	OD (mm)	Wall (mm)	kg/m
½"	21.3	2	0.95
½"	21.3	7.1	2.49
¾"	26.9	2.3	1.4
¾"	26.9	6.3	3.2
1"	33.7	2.6	1.99
1"	33.7	7.1	4.66
1¼"	42.4	3.2	3.09
1½"	48.3	3.2	3.56
1½"	48.3	9.53	9.11
2"	60.3	3.6	5.03
2"	60.3	9.53	11.93
2½"	76.1	3.6	6.44
3"	88.9	4	8.38
4"	114.3	4.5	12.19

First 14 of 19 rows — the full table is on the product page.

EN 10216-1/2 (P235TR2, P235GH) and ASTM A106 Gr. B; other schedules on mill order.

GRADES, STANDARDS AND TOLERANCES

Grade / standard	Yield (MPa)	Note
E355 (1.0580) — EN 10297-1 +N	355	hot-finished mechanical tube = ST52-3 DIN 1629
E355+SR — EN 10305-1	450 (typ.)	cold-drawn, stress-relieved; hydraulic cylinder tube = ST52 BK+S
E355+N — EN 10305-1	355	cold-drawn, normalised; for welding and bending
E355+C — EN 10305-1	≥ 520	cold-drawn hard; rollers, shafts
E235 / E275 (ST37 / ST44)	235 / 275	lighter mechanical tube
E470 / 20MnV6	470	higher strength, to order

Chemistry E355: C ≤ 0.22, Si ≤ 0.55, Mn ≤ 1.60, P/S ≤ 0.025. Not for pressure design — use P235GH / P355NH tube for that.

HYDRAULIC CYLINDER TUBE — SIZES AND TOLERANCES

Bore (mm)	OD × wall	Bore tolerance	Bore Ra (µm)	Straightness	Use
40	50 × 5	H8	≤ 0.4 honed / ≤ 0.2 SRB	≤ 0.3 mm/m	small cylinders, agricultural
50	60 × 5 / 63 × 6.5	H8	as above	≤ 0.3 mm/m	tipper, loader
63	75 × 6 / 80 × 8.5	H8	as above	≤ 0.3 mm/m	excavator, press
80	90 × 5 / 95 × 7.5 / 100 × 10	H8	as above	≤ 0.3 mm/m	construction machinery
100	115 × 7.5 / 120 × 10	H8	as above	≤ 0.3 mm/m	cranes, presses
125	140 × 7.5 / 150 × 12.5	H8	as above	≤ 0.3 mm/m	heavy presses, mining
160	180 × 10 / 190 × 15	H8 / H9	as above	≤ 0.5 mm/m	heavy equipment
200	220 × 10 / 230 × 15	H9	as above	≤ 0.5 mm/m	to order

Other bores and walls per EN 10305-1 and ISO 4394; tube supplied in 6 m or cut to stroke length + allowance. Chrome-plated E355 / CK45 rod for pistons on request.

STANDARDS

EN 10297-1 — seamless circular tubes for mechanical engineering (E355, hot-finished) · EN 10305-1 — cold-drawn seamless precision tubes (E355+SR / +N / +C) · DIN 1629 / DIN 2391 (historic ST52-3 / ST52 BK+S) · ISO 4394 / ISO 6020 honed cylinder tube; EN 10204 3.1