

Deformed bar – chemical composition

Class of deformed bar	Profile diameter	Steel grade	Chemical composition, %								
			C	Mn	Si	S	P	Cr	Ni	Cu	Ti
A-1(A240)	8 - 28	3kp	0.14 - 0.22	0.30 - 0.60	≤0.05	0.050	0.040	0.30	0.30	0.30	—
		3ps	0.14 - 0.22	0.40 - 0.65	0.05 - 0.15	0.050	0.040	0.30	0.30	0.30	—
		3sp	0.14 - 0.22	0.40 - 0.65	0.15 - 0.30	0.050	0.040	0.30	0.30	0.30	—
A-2(A300)	10 - 28	5ps	0.28 - 0.37	0.50 - 0.80	0.05 - 0.15	0.050	0.040	0.30	0.30	0.30	—
		5sp	0.28 - 0.37	0.50 - 0.80	0.15 - 0.30	0.050	0.040	0.30	0.30	0.30	—
As-2(As300)	10 - 28	10GT	≤0.13	1.30 - 1.40	0.45 - 0.65	0.040	0.040	0.30	—	0.30	0.015 - 0.035
A-3(A400)	6 - 40	35GS	0.30 - 0.37	0.80 - 1.20	0.60 - 0.90	0.045	0.040	0.30	0.30	0.30	—
		25G2S	0.20 - 0.29	1.20 - 1.60	0.60 - 0.90	0.045	0.040	0.30	0.30	0.30	—
A400S.A500S	6 - 25	3ps, 3sp	≤0.22	≤1.60	≤0.90	0.050	0.050	—	—	—	—

Deformed bar – mechanical requirements

Class of deformed bar	Mechanical requirements			Cold bending test (*)	Impact strength MJ/m ² (kp m/cm ²) at -60 °C
	Yield strength N/mm ²	Tensile strength N/mm ²	Elongation %		
	min.				min.
A-1 (A240)	235	373	25	180 °; a=d	—
A-2 (A300)	295	490	19	180 °; a=3d	—
As-2 (As300)	295	441	25	180 °; a=d	0.5 (S)
A-3 (A400)	390	590	14	90 °; a=3d	—
→ A400S	440	550	16	90 °; a=3d	—
A500S	500	600	14	90 °; a=3d	—

(*) a - mandrel thickness; d - sample diameter