

Tensile Properties

Standard	Grade	Nominal Diameter (mm)	Specified Characteristic value of Upper Yield Strength, R_{eH} MPa (min.)	Specified Characteristic value of Tensile/Yield Strength Ratio (R_m/R_{eH}) (min.)	Specified Characteristic value of Elongation After Fracture A_5 % (min.)	Specified Characteristic value of Total Elongation at Maximum Froce, A_{gt} % (min.)
ISO 6935-2:2007	B500BWR	8 - 32	500	1.08	14	5

Nominal Cross-Sectional Area and Mass per Meter

Standard	Grade	Nominal Diameter (mm)	Nominal Cross-Section Area (mm ²)	Nominal Mass per Meter (kg/m)	Mass Tolerance (%)	Mass per Meter (kg/m) (min.)	Mass per Meter (kg/m)
ISO 6935-2:2007	B500BWR	8	50.3	0.395	± 8	0.363	0.427
		10	78.5	0.617	± 6	0.580	0.654
		12	113	0.888	± 6	0.835	0.941
		16	201	1.58	± 5	1.501	1.659
		20	314	2.47	± 5	2.347	2.594
		25	491	3.85	± 4	3.696	4.004
		32	804	6.31	± 4	6.058	6.562

Chemical Composition (Maximum % by mass)

Standard	Grade	Cast/Product Analysis	Carbon C	Silicon Si	Manganese Mn	Phosphorus P	Sulphur S	Nitrogen N	Carbon Equivalent CEV
ISO 6935-2:2007	B500BWR	Cast Analysis	0.22	0.60	1.60	0.050	0.050	0.012	0.50
		Product Analysis	0.24	0.65	1.66	0.058	0.058	0.014	—

The carbon equivalent, CEV, is calculated according to the following formula:

$$C_{eq} = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Ni+Cu)/15)$$

Surface Geometrical Characteristics

Standard	Grade	Nominal Diameter d (mm)	Transverse Rib Height mm (min.)	Rib Spacing c		Transverse Rib Inclination β	Transverse Rib flank Inclination α	Ribless Perimeter in mm (max.)	Longitudinal Rib Height in mm (max.)
				Minimum in mm	Maximum in mm				
ISO 6935-2: 2007	B500BWR	8	0.52	4.0	8.0	35° to 75°	≥ 45°	6.28	1.2
		10	0.65	5.0	8.0			7.85	1.5
		12	0.78	6.0	9.6			9.42	1.8
		16	1.04	8.0	12.8			12.57	2.4
		20	1.30	10.0	16.0			15.71	3.0
		25	1.63	12.5	20.0			19.63	3.8
		32	2.08	16.0	25.6			25.13	4.8