Product standard list

We conduct inspections on our products to check many factors such as chemical composition, shape, dimension, mechanical property, etc. These are done under our strict quality control system, and enables us to manufacture high quality products.

Symbol of grade

Division	Standards	Symbol of grade
Deformed steel bars	KS D 3504	SD400
		SD500

Chemical composition (%)

Standards	C	Si	Mn	P	S	N	Ceq
SD400	–	–	–	0.045 max.	0.045 max.	–	–
SD500	–	–	–	0.040 max.	0.040 max.	–	–

Mechanical properties

Symbol of grade	Yield point or proof stress N/mm2	Tensile strength N/mm2	Tensile test piece	Elongation %	Bendability	
					Bend angle	Inside radius
SD400	400～520	≧YP×1.15	Equivalent to No.2	16min.	180°	2 × Nominal diameter
			Equivalent to No.3	18min.		
SD500	500～650	≧YP×1.08	Equivalent to No.2	12min.	135°	2.5 × Nominal diameter for diameter D16 or more and less than D22
			Equivalent to No.3	14min.		

Dimension,mass and allowable limits of knots

Desig-nation	Unit mass kg/m	Nominal diameter (d) mm	Nominal section area (s) cm2	Nominal periph-eral length (l) cm	Maximum value mm of aver-age inter-val be-tween knots mm	Height of knot		Maximum value of sum of clearance between knots mm	Angle be-tween knot and axial line
						Minimum value mm	Maximum value mm		
D10	0.560	9.53	0.7133	3.0	6.7	0.4	0.8	7.5	45°min.
D13	0.995	12.7	1.267	4.0	8.9	0.5	1.0	10.0	
D16	1.56	15.9	1.986	5.0	11.1	0.7	1.4	12.5	

Tolerances on length

Length	Tolerance
7m or under	+40mm 0
over 7m	For each increase of 1m in length or its fraction,further 5mm shall be added to the tolerances on the plus side given above.The maximum value , however , shall be lim-ited to 120mm.

Tolerances on mass of one piece

Dimensions	Tolerance
Designation over D10 up to and incl. D16	±6%
Designation over D16 up to and incl. D29	±5%

Tolerances on mass of one set

Dimensions	Tolerance
Designation over D10 up to and incl. D16	±5%
Designation over D16 up to and incl. D29	±4%