







## RANGE OF PC WIRE & STRANDS

### JG161 – 2004

### UNBONDED PRESTRESSING STEEL STRAND JG161- 2004

Construction	Nominal Diameter (mm)	Nominal Area of Section (mm <sup>2</sup> )	Reference Weight Per Meter Of strand g/m	Nominal Strength Rm/MPa	Max. force of strand not less than (Fm/KN)	Required unproportionate extension force not less than ( F <sub>P0.2</sub> /KN)	Total elongation under max. force not less than Agt/%	Modulus of elasticity GPa	Relaxation After 1000h Not more than (70%Max. Load)	Weight of Anticorrosion Grease not Less than g/m	Thickness of protecting Coat not Less than mm	Related standard
1x7	9.50	54.8	430	1720	94.3	84.9	3.5	195±10	2.5	32	0.8	GB/T5224 - 2003
				1860	102	91.8						
				1960	107	96.3						
	12.70	98.7	775	1720	170	153						
				1860	184	166						
				1960	193	174						
	15.20	140.0	1101	1570	220	198						
				1670	234	211						
				1720	241	217						
				1860	260	234						
	15.70	150.0	1178	1960	274	247						
				1770	266	239						
				1860	279	251						
				1860	279	251						

## PC WIRE STRAND

Type	Main size(mm)	Executed standard	Shape
Cold-drawn plain round wire	3.00, 4.00, 5.00, 6.00, 6.25, 7.00, 8.00, 9.00, 10.00, 12.00	GB/T5223 - 2002	
Three sides indented PC wire	5.00, 6.00, 7.00, 8.00	GB/T5223 - 2002	
PC helical rib wire	4.00, 4.80, 5.00, 6.00, 6.25 7.00, 8.00, 9.00, 10.00	GB/T5223 - 2002	
PC strand	9.50, 9.53, 12.70, 12.90, 15.20, 15.24, 15.70, 17.80	GB/T5223 - 2002 ASTM A416 / A416M - 2002 BS5896 - 1980	
PC compact strand	12.70, 15.20, 18.00	GB/T5223 - 2002 BS5896 - 1980	
Unbounded strand	12.00, 12.70, 15.00 15.20, 15.70	JG161 - 2004	

PC Wire GB/T 5223 – 2002

Nominal diameter (mm)	Allowed tolerance (mm)	Tensile strength $\sigma_{p0.2}$ not less than (Mpa)	Un-proportionate Extension stress $\sigma_{p0.2}$ not less than (Mpa)	Total elongation Under max. force Lo = 200mm not less than(%)	Bending test		Relaxation	
					Bending test Times /180° not less than	Radius (mm)	Initial stress Of % tensile strength	Loses of stress 1000 hours not more than %
4.00	±0.05	1470	1290	3.5	3	10	70	2.0
4.80		1570	1380		4	15	70	2.0
5.00		1670	1470		4	15	70	2.0
		1770	1560					
6.00		1860	1640					
6.00	±0.10	1470	1290		4	15	70	2.0
6.25		1570	1380		4	20	70	2.0
7.00		1670	1470		4	20	70	2.0
		1770	1560					
8.00		1470	1290		4	20	70	2.0
9.00		1570	1380		4	25	70	2.0
10.00		1470	1290		4	25	70	2.0
12.00				4	30	70	2.0	

PC Strand GB/T 5224 – 2003

construction	Nominal diameter (mm)	Nominal are of section (mm <sup>2</sup> )	Allowed Tolerance (mm)	Tensile Strength Grade (Mpa)	Max. force Of strand (KN)	Required Unproportionate Extension Force F <sub>p0.2</sub> /(KN)	(Lo≥500mm) Agt/% Total elongation Under max. force Agt/%	Theoretical Weight per 1000 meter (kg)	Relaxation value 1000 Hours not more than	
									Initial loads is 70% of maximum nominal load	
1x7	standard	9.50	54.8	+0.30 -0.15	1860	102	91.8	3.5	2.5	
					1960	107	96.3			
		11.10	74.2	+0.40 -0.20	1860	138	124			430
					1960	145	131			582
		12.70	98.7	+0.40 -0.20	1860	184	166			775
					1960	193	174			1101
	15.20	140	+0.40 -0.20	1720	241	217	1178			
				1860	260	234	1500			
	compact	15.70	150	+0.40 -0.20	1960	274	247			890
					1770	266	239			1295
		17.80	191	+0.40 -0.20	1860	279	251			1750
					1720	327	294			
		12.70	112	+0.40 -0.20	1860	353	318			
					1860	208	187			
	15.20	165	+0.40 -0.20	1820	300	270				
				1720	384	346				

**ASTM A416/A416M – 0.2**

Grade	Nominal diameter (mm)	Tolerance (mm)	Nominal Area of Section (m <sup>2</sup> )	Theoretical weight per 1000 meter (kg)	Breaking load not less than (KN)	Minimum load at 1 percent Extension (KN)	Elongation not less than (%)	Relaxation value 1000hrs not more than (%)	
								70% initial load	80% initial load
250	6.4	±0.40	23.2	182	40.0	36.0	3.5	2.5	3.5
	7.9		37.4	294	64.5	58.1			
	9.5		51.6	405	89.0	80.1			
	11.1		69.7	548	120.1	108.1			
	12.7		92.9	730	160.1	144.1			
	15.2		139.4	1094	240.2	216.2			
270		+0.65 -0.15	54.8	432	102.3	92.1	3.5	2.5	3.5
			74.2	582	137.9	124.1			
			98.7	775	183.7	165.3			
			140.0	1102	260.7	234.6			

**BS 5896**

Strand category	Nominal Diameter (mm)	Tensile strength grade (MPa)	Nominal area of section (mm <sup>2</sup> )	Nominal mass (g/m)	Tolerance (mm)	Minimum Breaking load (kN)	Minimum load at 0.1 percent extension (kN)	Minimum Load at 1 percent extension (kN)	Elongation % L <sub>0</sub> ≥500mm	Relaxation value 1000hours not more than	
										Initial load %	Grade Ⓜ%
1*7 steel strand	15.7	1770	150	1180	+0.4	265	225	233	3.5	60	1.0
	12.9	1860	100	785		-0.2	186	158			
	11.3	1860	75	590			139	118			
	9.6	1860	55	432	+0.3	102	87	90			
1*7 compact strand	18.0	1700	223	1750	-0.15	380	323	234	3.5	60	1.0
	15.2	1820	165	1259	+0.4	300	255	264		70	2.5
	12.7	1860	112	897	-0.2	209	178	184		80	4.5

**Machines**



