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# WIRES

PC strand

PC single

Galvanised wire

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## WIRES

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# PC STRAND

## CLASSIC - LOW RELAXATION



Standard		Nominal Diameter	Diameter Tolerance	Nominal Area	Unit Weight	Weight Tolerance	Pitch	Minimum Breaking Load	Minimum Yield Load			Minimum Elongation	Straightness	1,000-HR. Relaxation	MOE	
	Grade Mpa	mm.	mm.	mm. <sup>2</sup>	kg./ 1,000m.	%		kN.	kN.			%		(% Max.)	Gpa or kN/mm2	
									0.1%	0.2%	at 1.0% extension					
> 2% diff ØC & ØO	TIS 420 - 1997	1720	9.30	-	51.60	405.00	+4/-2	12-18	88.8	72.8	75.4	-	3.5	≤ 25 mm. of 1 m.	80% Fm	-
			10.80	-	69.70	546.00	+4/-2	12-18	120.0	98.4	102.0	-	3.5			
			12.40	-	92.90	729.00	+4/-2	12-18	160.0	131.0	136.0	-	3.5			
			15.20	-	139.00	1101.00	+4/-2	12-18	239.0	196.0	203.0	-	3.5			
	1860	9.50	-	54.80	432.00	432.00	+4/-2	12-18	102.0	83.6	86.6	-	3.5		4.5	
		11.10	-	74.20	580.00	580.00	+4/-2	12-18	138.0	113.0	117.0	-	3.5		4.5	
		12.70	-	98.70	774.00	774.00	+4/-2	12-18	184.0	151.0	156.0	-	3.5		4.5	
		15.20	-	139.00	1101.00	1101.00	+4/-2	12-18	259.0	212.0	220.0	-	3.5		4.5	
> 3% diff ØC & ØO	AS/NZS 4672 - 2007	1720	9.30	-	51.60	405.00	+4/-2	12-18	88.8	72.8	75.4	-	3.5	≤ 25 mm. of 1 m.	80% Fm	185 - 205
		1850	9.50	-	55.00	432.00	+4/-2	12-18	102.0	83.6	86.6	-	3.5			
		1870	11.10	-	73.90	580.00	+4/-2	12-18	138.0	113.0	117.0	-	3.5			
		1720	12.40	-	92.90	729.00	+4/-2	12-18	160.0	131.0	136.0	-	3.5			
		1870	12.70	-	98.70	774.00	+4/-2	12-18	184.0	151.0	156.0	-	3.5			
		1840	12.90	-	100.00	785.00	+4/-2	12-18	186.0	158.0	165.0	-	3.5			
		1750	15.20	-	143.00	1122.00	+4/-2	12-18	250.0	205.0	212.0	-	3.5			
		1830	15.20	-	143.00	1122.00	+4/-2	12-18	261.0	214.0	222.0	-	3.5			
		1780	18.00	-	190.00	1492.00	+4/-2	12-18	338.0	277.0	287.0	-	3.5			
		1830	18.00	-	190.00	1492.00	+4/-2	12-18	353.0	289.0	300.0	-	3.5			
-	ASTM A416 - 2015	1725	7.9	+/-0.4	37.00	294.0	-	12-16	64.5	-	-	58.1	3.5	-	80% Fm	-
			9.5	+/-0.4	52.00	405.0	-	12-16	89	-	-	80.1	3.5			
			11.1	+/-0.4	69.70	548.0	-	12-16	120	-	-	108.1	3.5			
			12.7	+/-0.4	92.90	730.0	-	12-16	160	-	-	144.1	3.5			
			15.2	+/-0.4	139.00	1090.0	-	12-16	240	-	-	216.2	3.5			
		1860	9.53	+0.65/-0.15	55.0	430	-	12-16	102	-	-	92.1	3.5			
			11.1	+0.65/-0.15	74.2	580	-	12-16	138	-	-	124.1	3.5			
			12.7	+0.65/-0.15	98.7	780	-	12-16	184	-	-	165.3	3.5			
			15.2	+0.65/-0.15	140.0	1100	-	12-16	261	-	-	234.6	3.5			
			15.7	+0.65/-0.15	150.0	1200	-	12-16	279	-	-	251.4	3.5			
17.8	+0.65/-0.15	190.0	1500	-	12-16	353	-	-	318.0	3.5						
-	ASTM A886 - 2012	1725	7.90 - Indent	+/-0.4	37.40	294	-	12-16	64.5	-	-	58.1	3.5	-	80% Fm	-
			9.50 - Indent	+/-0.4	51.60	405	-	12-16	89.0	-	-	80.1	3.5			
			11.10 - Indent	+/-0.4	69.70	548	-	12-16	120.1	-	-	108.2	3.5			
			12.70 - Indent	+/-0.4	92.90	730	-	12-16	160.3	-	-	144.3	3.5			
			15.20 - Indent	+/-0.4	139.40	1094	-	12-16	240.5	-	-	216.5	3.5			
		7.90 - Indent	+0.65/-0.15	39.90	313	-	12-16	74.3	-	-	66.9	3.5				
		1860	9.50 - Indent	+0.65/-0.15	54.80	432	-	12-16	101.9	-	-	91.7	3.5			
			11.10 - Indent	+0.65/-0.15	74.20	582	-	12-16	138.0	-	-	124.2	3.5			
			12.70 - Indent	+0.65/-0.15	98.70	775	-	12-16	183.6	-	-	165.2	3.5			
			15.20 - Indent	+0.65/-0.15	140.00	1102	-	12-16	260.4	-	-	234.4	3.5			

TABLE CONTINUED ▾

Remark: Fm = Maximum force of specification

Fma = Maximum force of actual



# PC SINGLE

## CLASSIC - LOW RELAXATION



Standard		Nominal Diameter	Diameter Tolerance	Nominal Area	Unit Weight	Weight Tolerance	Minimum Breaking Load	Minimum Yield Load			Indent Depth	Minimum Elongation	Minimum Reverse Bend	Straightness	1,000-Hr. Relaxation (% Max.)	Moe
Standard	Grade MPa	mm.	mm.	mm <sup>2</sup>	kg./1000 m.	kN	kN.			mm.	%	Times				
							0.1%	0.2%	1.0%							
TIS 95 - 1997	1 770	4	-	12.6	98.9	+/-2.0 g/m	22.3	18.5	19.0	-	0.05 - 0.20	3.5	≥ 4 for plain ≥ 3 for indented	≤ 30 mm. of 1 m.	80% Fm 4.5	195 - 215
	1 670	4	-	12.6	98.9	+/-2.0 g/m	21.0	17.5	17.9	-	0.05 - 0.20	3.5			4.5	
	1 770	5	-	19.6	154	+/-31 g/m	34.7	28.8	29.5	-	0.05 - 0.20	3.5			4.5	
	1 670	5	-	19.6	154	+/-31 g/m	32.7	27.2	27.8	-	0.05 - 0.20	3.5			4.5	
	1 770	6	-	28.3	222	+/-3.7 g/m	50.1	41.6	42.6	-	0.10 - 0.25	3.5			4.5	
	1 670	6	-	28.3	222	+/-3.7 g/m	47.3	39.3	40.2	-	0.10 - 0.25	3.5			4.5	
	1 670	7	-	38.5	302	+/-4.3 g/m	64.3	53.4	54.7	-	0.10 - 0.25	3.5			4.5	
	1 570	7	-	38.5	302	+/-4.3 g/m	60.4	50.1	51.3	-	0.10 - 0.25	3.5			4.5	
	1 470	9	-	63.6	499	+/-7.2 g/m	93.5	74.8	76.7	-	0.10 - 0.25	3.5			4.5	
AS/NZS 4672 - 2007	1 770	4.00	-	12.60	98.90	+/-2.0 g/m	22.30	18.50	19.00	-	0.08 - 0.16	3.5	≥ 4 for plain ≥ 3 for indented	≤ 30 mm. of 1 m.	80% Fm 3.0	195 - 215
	1 770	5.00	-	19.60	154.00	+/-31 g/m	34.70	28.80	29.50	-	0.08 - 0.16	3.5			3.0	
	1 670	5.00	-	19.60	154.00	+/-31 g/m	32.70	27.20	27.80	-	0.08 - 0.16	3.5			3.0	
	1 700	5.03	-	19.90	156.00	+/-31 g/m	33.80	28.10	28.70	-	0.08 - 0.16	3.5			3.0	
	1 670	7.00	-	38.50	302.00	+/-4.3 g/m	64.30	53.40	54.70	-	0.11 - 0.19	3.5			3.0	
	1 570	7.00	-	38.50	302.00	+/-4.3 g/m	60.40	50.10	51.30	-	0.11 - 0.19	3.5			3.0	
	1 470	9.00	-	63.60	499.00	+/-7.2 g/m	93.50	74.80	76.70	-	0.11 - 0.19	3.5			3.0	
ASTM A421 - 2015	WA	4.98	+/-0.05	19.47	152.05	-	33.58	-	-	28.52	-	4.0	-	≤ 3 inch of 60 inch	80% Fm 3.5	-
		6.35	+/-0.05	31.65	247.21	-	52.39	-	-	44.54	-	4.0			3.5	
		7.01	+/-0.05	38.57	301.27	-	62.49	-	-	53.12	-	4.0			3.5	
	BA	4.98	+/-0.05	19.47	152.05	-	32.22	-	-	27.39	-	4.0			3.5	
		6.35	+/-0.05	31.65	247.21	-	52.39	-	-	44.54	-	4.0			3.5	
		7.01	+/-0.05	38.57	301.27	-	62.49	-	-	53.12	-	4.0			3.5	
ASTM A881 - 2016	1620	5.03	+/-0.08	19.86	155.90	-	32.20	-	-	28.98	0.08 - 0.15	3.0	wire bend 6X	≤ 3 inch of 1.8 m.	80% Fm 3.5	-
	1720	5.03	+/-0.08	19.86	155.90	-	34.30	-	-	30.87	0.08 - 0.15	3.0			3.5	
	1760	5.32	+/-0.08	22.23	174.50	-	39.10	-	-	36.83	0.08 - 0.15	3.0			3.5	
BS 5896 - 2012	Y1670C Y1770C Y1620C Y1670C Y1770C Y1860C	4.00	-	12.6	98.40	+/-2.0%	21.0 - 24.2	18.5	-	-	INDENT 0.06 - 0.16(+/-0.04) CH 0.06 - 0.13(+/-0.03)	3.5	≤ 25 mm. of 1 m.	80% Fma 4.5	205	
		4.00	-	12.6	98.40	+/-2.0%	22.3 - 25.6	19.6	-	-		3.5		4.5		
		4.50	-	15.9	124.20	+/-2.0%	25.8 - 29.7	22.7	-	-		3.5		4.5		
		5.00	-	19.6	153.10	+/-2.0%	32.7 - 37.6	28.8	-	-		3.5		4.5		
		5.00	-	19.6	153.10	+/-2.0%	34.7 - 39.9	30.50	-	-		3.5		4.5		
		5.00	-	19.6	153.10	+/-2.0%	36.5 - 42.0	32.5	-	-		3.5		4.5		
	Y1670C Y1770C Y1570C Y1670C	6.00	-	28.3	221.00	+/-2.0%	47.3 - 54.4	41.6	-	-	INDENT 0.06 - 0.16(+/-0.04) CH 0.09 - 0.16(+/-0.04)	3.5		4.5		
		6.00	-	28.3	221.00	+/-2.0%	50.1 - 57.6	44.1	-	-		3.5		4.5		
		7.00	-	38.5	300.70	+/-2.0%	60.4 - 69.5	53.2	-	-		3.5		4.5		
		7.00	-	38.5	300.70	+/-2.0%	64.3 - 73.9	56.6	-	-		3.5		4.5		

TABLE CONTINUED ▾

Remark Fm = Maximum force of specification

Fma = Maximum force of actual

Standard		Nominal Diameter	Diameter Tolerance	Nominal Area	Unit Weight	Weight Tolerance	Minimum Breaking Load	Minimum Yield Load			Indent Depth	Minimum Elongation	Minimum Reverse Bend	Straightness	1,000-Hr. Relaxation (% Max.)	Moe
Standard	Grade MPa	mm.	mm.	mm <sup>2</sup>	kg./1000 m.	%	kN	kN.			mm.	%	Times			Gpa or kN/mm2
								0.1%	0.2%	1.0%						
prEN 10138 - 2012	Y1860C Y1770C Y1860C Y1770C Y1670C Y1770C Y1670C Y1570C Y1670C Y1570C Y1570C	4.0	-	12.6	98.4	+/-2.0%	23.4-26.9	20.8	-	-	0.06 - 0.13(+/-0.03)	3.5	≥ 4 for plain ≥ 3 for indented	≤ 25 mm. of 1 m.	70% F <sub>ma</sub> 2.5	205
		4.0	-	12.6	98.4	+/-2.0%	22.3-25.6	19.6	-	-	0.06 - 0.13(+/-0.03)	3.5				
		5.0	-	19.6	153.1	+/-2.0%	36.5-42.0	32.5	-	-	0.06 - 0.13(+/-0.03)	3.5				
		5.0	-	19.6	153.1	+/-2.0%	34.7-39.9	30.5	-	-	0.06 - 0.13(+/-0.03)	3.5				
		5.0	-	19.6	153.1	+/-2.0%	32.7-37.6	28.8	-	-	0.06 - 0.13(+/-0.03)	3.5				
		6.0	-	28.3	221.0	+/-2.0%	50.1-57.6	44.1	-	-	0.09 - 0.16(+/-0.04)	3.5				
		6.0	-	28.3	221.0	+/-2.0%	47.3-54.4	41.6	-	-	0.09 - 0.16(+/-0.04)	3.5				
		7.0	-	38.5	300.7	+/-2.0%	68.1-78.3	59.9	-	-	0.09 - 0.16(+/-0.04)	3.5				
		7.0	-	38.5	300.7	+/-2.0%	64.3-73.9	56.6	-	-	0.09 - 0.16(+/-0.04)	3.5				
		7.0	-	38.5	300.7	+/-2.0%	60.4-69.5	53.2	-	-	0.09 - 0.16(+/-0.04)	3.5				
		8.0	-	50.3	392.8	+/-2.0%	84.0-96.6	73.9	-	-	0.09 - 0.16(+/-0.04)	3.5				
JIS 3536 - 2014	SWPD1L (indent) SWPR1AL (plain) SWPR1BL (plain)	4.00	+/-0.04	12.57	98.70	-	21.10	-	18.60	-	-	3.5	-	-	70% F <sub>m</sub> 2.5	-
		5.00	+/-0.05	19.64	154.00	-	31.90	-	27.90	-	-	4.0	-	-	2.5	-
		6.00	+/-0.05	28.27	222.00	-	44.10	-	38.70	-	-	4.0	-	-	2.5	-
		7.00	+/-0.05	38.48	302.00	-	58.30	-	51.00	-	-	4.5	-	-	2.5	-
		8.00	+/-0.06	50.27	395.00	-	74.00	-	64.20	-	-	4.5	-	-	2.5	-
		9.00	+/-0.06	63.62	499.00	-	90.20	-	78.00	-	-	4.5	-	-	2.5	-
		8.00	+/-0.06	50.27	395.00	-	78.90	-	69.10	-	-	4.5	-	-	2.5	-
LNEC E452 - 2011	1770 1860 1770 1860 1770 1670 1670 1570 1570 1570 1570	4.00	-	12.60	98.40	+/-2.0%	22.3 - 25.6	19.60	-	-	0.06 - 0.13 (+/-0.03)	3.5	-	≤ 25 mm. of 1 m.	70% F <sub>ma</sub> 2.5	195 - 215
		4.00	-	12.60	98.40	+/-2.0%	23.4 - 26.9	20.80	-	-	0.06 - 0.13 (+/-0.03)	3.5				
		5.00	-	19.60	153.10	+/-2.0%	34.7 - 39.9	30.50	-	-	0.06 - 0.13 (+/-0.03)	3.5				
		5.00	-	19.60	153.10	+/-2.0%	36.5 - 42.0	32.50	-	-	0.06 - 0.13 (+/-0.03)	3.5				
		6.00	-	28.30	221.00	+/-2.0%	50.1 - 57.6	44.10	-	-	0.09 - 0.16 (+/-0.04)	3.5				
		7.00	-	38.50	300.70	+/-2.0%	64.3 - 73.9	56.60	-	-	0.09 - 0.16 (+/-0.04)	3.5				
		8.00	-	50.30	392.80	+/-2.0%	84.0 - 96.6	73.90	-	-	0.09 - 0.16 (+/-0.04)	3.5				
		9.40	-	69.40	542.00	+/-2.0%	109.0 - 125.0	94.80	-	-	0.10 - 0.20 (+/-0.05)	3.5				
		9.50	-	70.90	553.70	+/-2.0%	111.0 - 128.0	96.60	-	-	0.10 - 0.20 (+/-0.05)	3.5				
		10.00	-	78.50	613.10	+/-2.0%	123.0 - 141.0	107.00	-	-	0.10 - 0.20 (+/-0.05)	3.5				
		10.50	-	86.60	676.30	+/-2.0%	136.0 - 156.0	118.00	-	-	0.10 - 0.20 (+/-0.05)	3.5				
XP A35 - 045 - 2	1860 1860 1770 1670 1770 1670 1570	4.00	-	12.60 +/-2.0%	-	-	23.40	21.00	-	-	0.04 - 0.08	3.5	3	≤ 25 mm.	80% F <sub>ma</sub> 4.5	205
		5.00	-	19.60 +/-2.0%	-	-	36.50	32.50	-	-	0.05 - 0.09	3.5				
		6.00	-	28.30 +/-2.0%	-	-	50.10	44.60	-	-	0.05 - 0.09	3.5				
		7.00	-	38.50 +/-2.0%	-	-	64.30	57.00	-	-	0.05 - 0.11	3.5				
		7.00	-	38.50 +/-2.0%	-	-	68.10	60.60	-	-	0.05 - 0.11	3.5				
		8.00	-	50.30 +/-2.0%	-	-	84.00	75.00	-	-	0.10 - 0.16	3.5				
		9.40	-	69.40 +/-2.0%	-	-	109.00	97.00	-	-	0.10 - 0.16	3.5				
MS 1138 - 2 2007	1770 1670 1770 1670 1770 1670 1670 1570 1670 1570 1470	4.00	-	12.60	98.90	+/-2.0%	22.30	-	19.00	-	0.07 - 0.17	3.5	-	≤ 30 mm. of 1 m.	80% F <sub>m</sub> 4.5	195 - 215
		4.00	-	12.60	98.90	+/-2.0%	21.00	-	17.90	-	0.07 - 0.17	3.5				
		5.00	-	19.60	154.00	+/-3.1%	34.70	-	29.80	-	0.07 - 0.17	3.5				
		5.00	-	19.60	154.00	+/-3.1%	32.70	-	27.80	-	0.07 - 0.17	3.5				
		6.00	-	28.30	222.00	+/-3.7%	50.10	-	42.60	-	0.10 - 0.20	3.5				
		6.00	-	28.30	222.00	+/-3.7%	47.30	-	40.20	-	0.10 - 0.20	3.5				
		7.00	-	38.50	302.00	+/-4.3%	64.30	-	54.70	-	0.10 - 0.20	3.5				
		7.00	-	38.50	302.00	+/-4.3%	60.40	-	51.30	-	0.10 - 0.20	3.5				
		8.00	-	50.30	395.00	+/-5.9%	84.00	-	71.40	-	0.10 - 0.20	3.5				
		8.00	-	50.30	395.00	+/-5.9%	79.00	-	67.10	-	0.10 - 0.20	3.5				
		9.00	-	63.60	499.00	+/-7.2%	93.50	-	76.70	-	0.10 - 0.20	3.5				
SNI 1155 - 2011	KBjP-R (1670) KBjP-R (1570) KBjP-R (1470)	5.00	+/-0.05	-	-	-	31.87	-	27.95	-	-	4.0	-	70% F <sub>ma</sub> 2.5	-	
		7.00	+/-0.05	-	-	-	58.35	-	50.94	-	-	4.5				
		9.00	+/-0.06	-	-	-	90.22	-	77.96	-	-	4.5				
NBR 7482 - 2008	CP 175 RB 4 E CP 175 RB 5 E CP 175 RB 6 E CP 170 RB 7 E	4.00	+/-0.05	12.6	98.70	-	21.00	-	-	18.9	0.05 - 0.14	5.0	3	-	80% F <sub>m</sub> 3.0	205
		5.00	+/-0.05	19.6	154.00	-	33.00	-	-	29.7	0.07 - 0.17	5.0				
		6.00	+/-0.05	28.3	222.00	-	47.70	-	-	43.0	0.10 - 0.20	5.0				
		7.00	+/-0.05	38.5	302.00	-	63.30	-	-	54.9	0.10 - 0.20	5.0				

# GALVANISED WIRE



The current manufacturing capabilities:

## THE CLASSES OF THE PRODUCTS, BASED ON THE TENSILE STRENGTH ARE AS FOLLOWS:

Tensile Class	Diameter	Tensile range
Soft	1.60mm - 6.00mm	400N/mm - 600N/mm
Medium	1.60mm - 6.00mm	550N/mm - 750N/mm

## THE SPECIFICATIONS OF THE PRODUCTS ARE AS FOLLOWS:

Diameter	Class A	Class AB	Class B	Class C	Class D
in 'mm'	in 'g/m2'	in 'g/m2'	in 'g/m2'	in 'g/m2'	in 'g/m2'
1.65 to 1.85	205	145	100	75	30
1.85 to 2.15	215	155	115	80	40
2.15 to 2.50	230	170	125	85	45
2.50 to 2.80	245	185	125	95	45
2.80 to 3.20	255	195	135	100	50
3.20 to 3.80	265	210	135	105	60
3.80 to 4.40	275	220	135	105	60
4.40 to 5.20	280	220	150	110	70