Product Sheet

ELSEWEDY STEEL

PC STRAND

Pre-Stressed Concrete (PC) Strand is a 7-wire steel strand made from hot-rolled, high-carbon steel wire rods. The wire is cleaned, drawn, and assembled into strands, which are then thermally stress-relieved to ensure optimal performance under load. This product is used to “pre-stress” concrete structural members, significantly improving their load-bearing capacity and durability. PC strands are available dry or with oil coating, depending on customer requirements

Key Features

PC Strands offer notable advantages such as reduced material consumption (both steel and concrete), shorter lead times, and lower overall structural weight compared to conventional reinforced concrete systems. They also help minimize cracking and allow the construction of very long-span bridges without temporary intermediate supports, reducing environmental impact and construction disruptions

Application

PC Strands are used in a variety of structural applications including commercial buildings, bridges, tunnels, tanks, silos, and parking structures. In pre-stressed slab systems, they enable longer spans, reduce the number of supporting columns, and contribute to faster, more efficient construction processes

Mechanical Properties

According to ASTM-A416/A416M-18 (Low-Relaxation)

Nominal diameter (mm)	Center wire diameter (mm)	Outer wire diameter (mm)	Weight (gm/m)	Nominal area (mm2)	Minimum diameter (mm)	Maximum diameter (mm)	Tensile strength (N/mm2)	B.L. (KN)	Minimum elongation (%)
9.53	3.23	3.09	405	51.61	9.12	9.94	1725	89	3.5
11.11	3.76	3.61	548	69.68	10.7	11.52	1725	120.1	3.5
12.7	4.29	4.13	730	92.9	12.29	13.11	1725	160.1	3.5
15.2	5.28	5.1	1094	139.35	14.83	15.65	1725	240.2	3.5
9.53	3.3	3.17	432	54.84	9.38	10.19	1860	102.3	3.5
11.11	3.86	3.71	582	74.19	10.96	11.79	1860	137.9	3.5
12.7	4.43	4.27	775	98.71	12.55	13.36	1860	183.7	3.5
15.2	5.28	5.1	1102	140	15.09	15.9	1860	260.7	3.5

According to BS-5896

Nominal diameter (mm)	Center wire diameter (mm)	Outer wire diameter (mm)	Weight (gm/m)	Nominal area (mm2)	Rp 0.1% (mm)	Lay L. (14-18)d (mm)	Tensile strength (N/mm2)	B.L. (KN)	Minimum elongation (%)
9.3	3.23	3.09	406.1	52	81	130-167	1770	92	3.5
11	3.76	3.61	546.7	71	106	154-198	1770	125	3.5
12.5	4.29	4.13	726.3	93	145	175-225	1770	165	3.5
15.7	5.42	5.24	1172	150	234	220-282	1770	266	3.5
9.3	3.23	3.09	406.1	52	85.1	130-167	1860	96.7	3.5
11.3	3.86	3.71	590	75	123	158-203	1860	140	3.5
12.5	4.29	4.13	726.3	93	152	175-225	1860	173	3.5
15.70	5.42	5.24	1172	150	246	220-282	1860	279	3.5

Product Packaging

Outer Diameter (D)	1000 to 1500 mm
Inner Diameter (d)	800 mm
Width (L)	750 mm
Av. Weight	0.80 to 3 tons
Loading	Eye to the sky – air coil