



TEST REPORT



98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, 13810, Korea

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Report No : TAK-2025-070998

Receipt Date : 2025.05.15.

Representative : Se-Hong, Min, Yeong-Seok, Yang, Woo-Jin, Kim

Test Completion Date : 2025.07.17.

Company name : DONGIL-STEEL MFG.Co.,Ltd

Address : #1F-1ho, 474-40, Anseongmatchum-Daero, Miyang-Myeon, Anseong-si, Gyeonggi-do, Korea

Sample name : PC Prestressing strand (SWPC7BL 7/15.2mm)

Test Results

TEST ITEM	UNIT	SAMPLE	RESULT	TEST METHOD	SITE
Relaxation (1 000 h)	%	-	2.0	KS D 7002 : 2019	AK

- Refer to relaxation test data sheet

- AK: 98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, 13810, Korea

- Usage of Report : QUALITY CONTROL

- End of Report -

- Note :
1. The test results of this test report are only limited in to the samples and sample names provided by the client and do not guarantee the quality of all products of the client. You Can check website (www.ktr.or.kr) or QR code to verify the authenticity of the certificate.
 2. This test report shall be used only within the purpose of its defined usage and shall not be used for public relation, advertisement and lawsuit.
 3. This test report is only valid when printed on KTR original report paper with hologram and when re-issued by KTR. The copy and the electronic file of the test report are only for reference.

The above testing certificate is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

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2025.07.17

Korea Testing & Research Institute

Accredited by KOLAS, Republic of KOREA

President *Kim Hyun cheol*

QR Code for forgery

RELAXATION TEST

- ▶ Report NO. : TAK-2025-070998
- ▶ Sample Name : PC강연선 (SWPC7BL 7/15.2mm)
PC Prestressing strand (SWPC7BL 7/15.2mm)
- ▶ Test Method : KS D 7002:2019
- ▶ Test Result ;

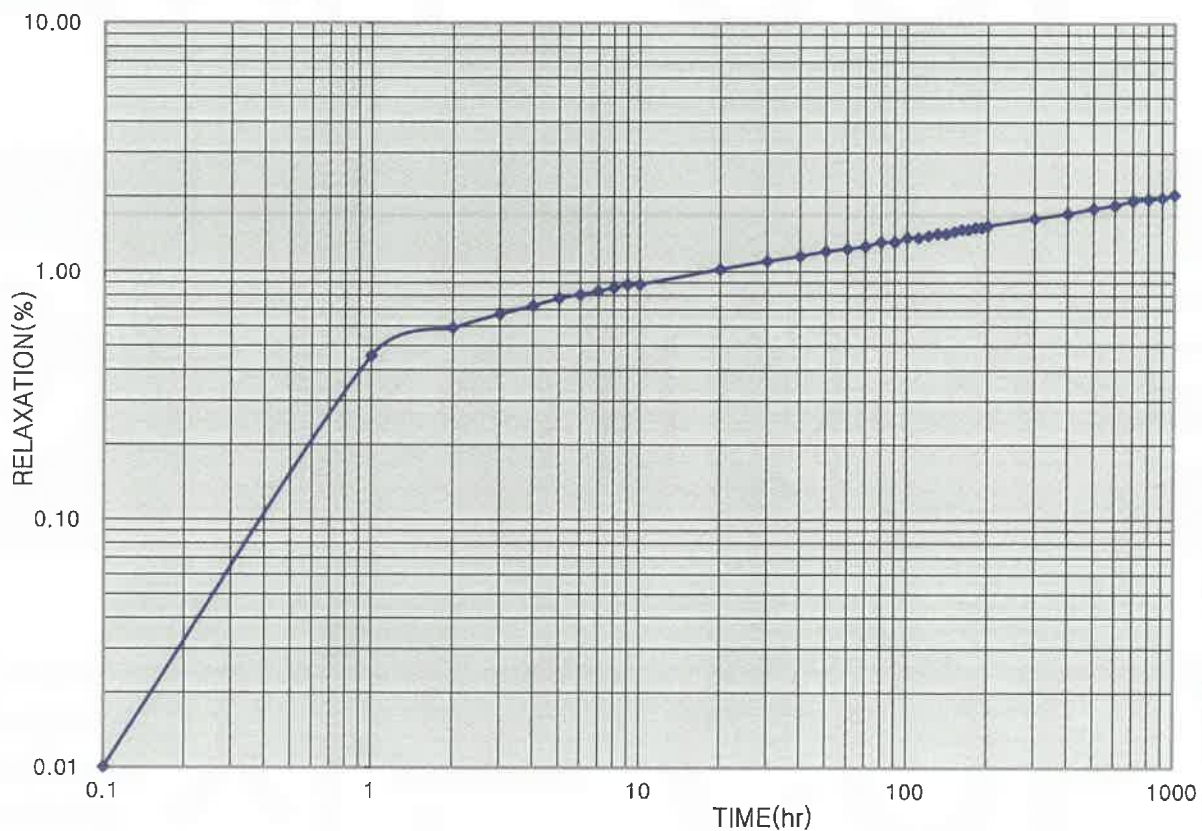
-Test Item : Relaxation (1 000 h)
-Initial Load : 182.86 (kN)
-Final Load : 179.14 (kN)
-Initial Reading of Temperature : 21(℃)
-Final Reading of Temperature : 21(℃)

TIME (h)	LOAD (kN)	RELAXATION RATE (%)	TIME (h)	LOAD (kN)	RELAXATION RATE (%)
1	182.03	0.46	110	180.36	1.37
2	181.78	0.59	120	180.31	1.39
3	181.64	0.67	130	180.26	1.42
4	181.54	0.72	140	180.26	1.42
5	181.44	0.78	150	180.22	1.45
6	181.39	0.80	160	180.17	1.47
7	181.34	0.83	170	180.17	1.47
8	181.29	0.86	180	180.12	1.50
9	181.25	0.88	190	180.12	1.50
10	181.25	0.88	200	180.07	1.53
20	181.00	1.02	300	179.87	1.64
30	180.85	1.10	400	179.73	1.72
40	180.75	1.15	500	179.58	1.80
50	180.66	1.21	600	179.48	1.85
60	180.61	1.23	700	179.33	1.93
70	180.56	1.26	800	179.28	1.96
80	180.46	1.31	900	179.23	1.98
90	180.46	1.31	1000	179.14	2.04
100	180.36	1.37			

RELAXATION TEST

- ▶ Report NO. : TAK-2025-070998
- ▶ Sample Name : PC강연선 (SWPC7BL 7/15.2mm)
PC Prestressing strand (SWPC7BL 7/15.2mm)
- ▶ Test Method : KS D 7002:2019

< Relaxation Curve >



▶ RELAXATION RATE (Test Time : 1 000 hours):

- Initial Load : Minimum Breaking Strength × 70(%) = 182.86 (kN)
- Final Load : 179.14 (kN)

▶ RELAXATION RATE(%) = $\frac{\text{Initial Load} - \text{Final Load}}{\text{Initial Load}} \times 100 (\%) = 2.0(\%)$