

Proceedings of The 18th Symposium on Developments in Prestressed Concrete

Contents

Invited Lecture

I	From Tottori! Yayoi People of Aoya-Kamijichi Site - Findings from the bones and brain	Takao INOUE	----- (1)
II	Public Works and Economics: French Engineers and Their Cost-Benefit Analysis at the 19th Century	Keiko KURITA	----- (5)
◇(1)	Effects of Maximum Size of Coarse Aggregate and Curing Condition on Strength Characteristic of High-Strength Concrete	Mamoru MASAKI Suguru TOKUMITSU	----- 1
◇(2)	Prediction for relaxation of prestressing steel based on a creep strain - time relationship model at elevated temperatures	Seongjun IM Minehiro NISHIYAMA	----- 7
◇(3)	Numerical Analysis of Nonlinear FEM and Estimation of Macro Model on Protruded Anchorage Zone Models for Externally Cable	Atsushi IGUCHI Yoshiaki YAGINUMA	----- 13
(4)	The Partial Precast Method of RC Slab in Composite Box Girder for Railway	Ikuo IWASAKI Haruyuki YOSHIZUMI Takuya KUMASAKA Tatsuo MIOKE	----- 19
(5)	Development of Connection Member of Prefabricated Prestressed Concrete Track Girder for Permanent Track Structure (RC Closing Lap Joint)	Hiromichi SUGAWARA Shigemi SATO Atsushi KAWAMATA Tarou ISHIZAKI	----- 23
◇(6)	A Study on performance-based design method of external tendons using high-strength prestressing steel strand	Hideaki SAKAI Naoki HAGIWARA	----- 27
◇(7)	The Seismic Design Method of Precast PC pier with Internal Steel Pipes	Shinichi YAMANOBE Naoki SOGABE Shigeki UNJO Junichi SAKAI	----- 33
(8)	Shortening of Construction Process of 5 Span Continuous Box Girder Bridge	Tomonori TANAKA Yasuo MORIYAMA Satoshi TOMINAGA Shoji MATSUFUJI	----- 39

(9)	Adoption of high-strength concrete to prestressed concrete box-girder bridge	Kenichi TOCHIGI Hiroshi OHNO Hiroshi NEMOTO	-----43
(10)	Construction of Hoshida Viaduct in Dainikeihan Expressway	Atsuyuki TSUKAMOTO Yoshirou OOKUNI Atsushi KAWADA	-----47
(11)	Construction Report of Jinnoharu viaduct (P1-P4) Fukuoka Route3	Akira KAWANAKA Takayuki SAITOU Susumu NAKAHARA Yasuhiro ITOU	-----51
(12)	Construction of Yosio Bridge	Takumi IRIGUCHI Yosihiko ODA Yasumori KURATOMI	-----55
(13)	Construction of Entsuuji Viaduct	Takayoshi ISHII Syouchi USHIROSYOUI Keiichirou TSUCHIYA	-----59
(14)	Construction Nagaragawa Bridge by P&Z method	Hidekatsu OKABAYASHI Masahiro KAWASHIMA Tsuyoshi HASEGAWA	-----63
(15)	Construction of Sufugawa Bridge by incremental launching	Hisayuki KIDERA Yoshiyuki YAMAHUJI Hiroshi NOBORITA Kenichi SAITO	-----67
(16)	Report of Seismic Reinforcement Construction for Ortakoy Viaducts	Hiroshi TATEMATSU Junichi SHAURA Hiroshi YATSUO Shiro INBE	-----71
(17)	The renewal construction of the city highway viaduct (the neighborhood of 5 Ikebukuro Line Gokokuji rampway)	Masahiko KIKUCHI Daisuke MATSUSHITA Hiroaki NAGAI Tomoo KUROSE	-----75
(18)	Report for Disaster Restoration Construction in Agewasinden Bridge, Hokuriku Expressway	Hiroataka ASAI Hisashi TSUDA Yasuhiro FUJIMOTO Masaki KASAMATSU	-----79
(19)	Construction of NAKA BRIDGE reinforcement construction that uses carbon fiber plate tension material	Kouji KURITA Yukiya KIMURA Tsuyoshi HASEGAWA	-----83
(20)	Construction report of continuous making having hinge bridge construction	Yuji KUMAGAI Nobuyuki MURATA Manabu HIGASHIDA	-----87

(21)	Approach to improvement of durability by replacement of slab	Tetsuo HASHINO Syozo NISHIYAMA Akihiko GOTO Tomohiro NISHIHAMA	-----91
(22)	Fatigue Tests of PC Beams with Externally Bonded Prestressed Aramid Fiber Sheet	Takashi SANGA Norimichi NAKAJIMA Hiroshi ASAI Hiroshi MIKAMI	-----95
(23)	Design and Construction of large scale PC viaduct applying Span-by-Span Erection with rear assembly system	Masaya TOMITA Norikazu HATAKEYAMA Akira MOROHASHI Katuhiko MIZUNO	-----99
(24)	Design for "C Ramp Bridge" at Onomichi Junction of Sanyo Expressway	Yusuke WATANABE Seiichi URAKAWA Masahiro NAKANO Yoshiyuki WAKABAYASHI	-----103
(25)	Design and Construction of steel-concrete mixed bridge with two girder sections	Tastuya FUKUMOTO Akihiro NOGUCHI Shigeru YAMAGUCHI Yuki KAMINAGA	-----107
(26)	Design for Main Span Closure of Box-Girder Bridge constructed by Balanced Cantilever Method	Hiroshi KOGA Takayuki TOMINAGA Kouichi WASAKI Daisuke AKIYAMA	-----111
(27)	Construction of Tokushima Higashi Kanryo Viaduct	Shun KATO Yoshihiro SHIMAZAKI Yukio HIROI	-----115
(28)	Design and Construction of Extradosed Prestressed Concrete Bridge with High Strength Concrete -Yumekake Bridge, Tsujido Bypass-	Hiroshi AKIYAMA Shunji OTSUKA Yasuaki MATSUO Akira ARIKADO	-----119
(29)	Construction of Stress Ribbon Bridge with External Tendons. -HAKUSAN Theme Park Pedestrian Bridge-	Jyuniti KAWASHIMA Katuyuki NISHIMOTO Hiroyoshi WATANABE Youti HIDEHIRA	-----123
(30)	Design and Construction of Precast Concrete Slab for Piled Elevated Platform -New Connection Taxiway for D- Runway in Tokyo International	Manabu HASHIMOTO Takatoshi NOGUCHI Takeshi URANO Shigenori ONO	-----127
(31)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast Concrete Structure (Part 1 General)	Hitoshi SHIOHARA Masaki MAEDA	-----131
(32)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast (Part 2 Design of Specimen)	Taku TABATA Hiroshi SHINJO Naoki TAKAMORI Kazunori OOSAKO	-----135

(33)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast (Part3 Manufacture and Construction)	Kazunori OSAKO Takeshi KISHIMOTO Tsunehisa MATSUURA	-----139
(34)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast Concrete Structure Part 4 Result of separability and reusability tests	Taku ISHIOKA Hideyoshi WATANABE Tsunehisa MATSUURA Shinsuke HORI	-----143
(35)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast Concrete Structure Part5 Result of horizontal loading test	Nobuaki HIRATA Hideyoshi WATANABE Naoki TAKAMORI Kazunori OSAKO	-----147
(36)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast Concrete Structure Part6	Hiroto TAKATSU Kuniyoshi SUGIMOTO Satoru NAGAI Minehiro NISHIYAMA	-----151
(37)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast Concrete Structure Part7	Hiroshi SHINJO Toshio MAEGAWA Taku TABATA Kuniyoshi SUGIMOTO	-----155
(38)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast Concrete Structure (Part8 Experiment on In-plane Shear Transfer in Floor Slab)	Masaki MAEDA Haruhito IGARASHI Ryota ASAKA	-----159
(39)	Test of a Full Scale Two Storied Unbond Post-tensioned Precast Concrete Structure (Part9 Health Monitoring)	Shiro TAKEDA Masaki MAEDA Ryota ASAKA Naoki TAKAMORI	-----163
(40)	Experimental study on new unbonded post-tensioned precast connection Part1. Experimental test result from proto-type connection system	Chikako KONDO Thinh DO TIEN Koichi KUSUNOKI	-----167
(41)	Experimental study on new unbonded post-tensioned precast connection. Part 2: Experimental test with improved connection system	Tien Thinh DO Chikako KONDO Akira TASAI	-----171
(42)	The essentials on inspection into prestressed concrete bridges of the expressway	Suguru TOKUMITSU Kiyoshi HONJYO Kazuaki YOKOYAMA Hironori MAKI	-----175
◇(43)	The Study on Application of the infrared method to Investigation of PC Overbridge	Nobuo KUWAHARA Yasuhiro UMEMURA Hideaki SAKAI	-----179
(44)	Experimental study on the estimation of clack depth in concrete	Masamichi TAKAHASHI Zyunichi IZUMO	-----185

(45)	Report on Effectiveness with Blast Furnace Slag Powder 6000 of PC Beams by ASR Deterioration	Tsuyoshi ISHII Akira MIYAJIMA Takahiro MATSUYAMA Kazuyuki TORII	-----189
◇(46)	Large Scale test modeling PC beam damaged by ASR	Hiroshi INAGAKI Kenji KOSA Masao KUSANO Hiroki GODA	-----193
(47)	Construction of 3 Span Continuous Panel-stayed Bridge -AGATSUMA RIVER The second bridge-	Kazuhiro UTSUGI Takayuki OSATO Ryusuke HIGASHI	-----199
(48)	The lifting-up erections of the prefabricated entire blocks of the steel arch ribs AGATSUMAGAWA BRIDGE No.3	Yoshiyuki MORII Kiyoshi NAGANUMA Masaru TADA Ikuoh IWASAKI	-----203
(49)	Construction of Warumi Bridge	Susumu KAJIKAWA Norihide SAKUMOTO Tomohiro MAEKAWA Seiitsu TESHIMA	-----207
(50)	Construction of Shinsakai Bridge that has plectrum horizontal alignment	Kohei OKUMURA Naoto KADONO Takeshi GOTOU Katsuhiro SHIBATA	-----211
(51)	Width extension construction of Strutted wing slabs	Takeshi UMENO Shinji YOSHIDA Akinobu KAWABE Yoshifumi MIZUTORI	-----215
(52)	Replacing Construction of Track Girder using Prestressed Concrete Track Girder for Permanent Track Structure (Keihan Main Line)	Shigemi SATO Yuichiro OTSUKA Shinya TAKAHASHI Hiroyuki KURAHATA	-----219
(53)	Aesthetic Design of Rebuilding of the Yoshiki Bridge and Construction of Cast-in-place Joint using UFC	Akira MIYAJIMA Shiniti MIWA Tsuyoshi ISHII Yasuhiro SUDA	-----223
◇(54)	Influence of Various Factors on Shrinkage of Concrete and Methods for Predicting the Shrinkage	Michikazu TAWARA Chengning WU	-----227
◇(55)	Surface and Internal Pore Structure of the Concrete with Several Types of Cement Demolded at Various Age.	Kengo HARA Yoji OGAWA Yuko ISHIKAWA	-----233
◇(56)	Dynamic Properties and Volume Change of High Early Strength Concrete	Hideaki TANIGUCHI Masanori HIGUCHI Manabu FUJITA Seiichi OKA	-----239

◇(57)	The study about the influence of sunshine and drying of the PC-precast-panel	Hiroshi ASAI Takashi SANGA Isamu TAKENOI Hiroshi MIKAMI	-----245
◇(58)	Study on estimate of bond property between grout and multistrand cable	Kiyotaka HOSOI Takashi ICHIKI Shoji SHIRAHAMA Tadashi NAKATSUKA	-----251
(59)	Shear Behavior of Prestressed Concrete Beams with High Strength Transverse Reinforcement	Jaeman LEE Minehiro NISHIYAMA Masanori TANI	-----257
(60)	Tension characteristics and Flexural behavior of Beam of Expansive Concrete and Vinylon Fiber Reinforced Concrete	Hiroo SHINOZAKI Takashi SANGA Shingo ASAMOTO Hiroshi MUTSUYOSHI	-----261
◇(61)	Damage analysis of PC bridge by tsunami by caused by Off-Sumatra earthquake	Kenji KOSA Shinichi NII Kenta MIYAHARA Gaku SHOJI	-----265
◇(62)	Test method that evaluates sheath made of polyethylene	Toshihiko NAGATANI Tatsuo OGATA Atsuo OGAWA	-----271
◇(63)	Structural behavior of pretensioned prestressed concrete beam made of expansive ultra high-strength concrete	Tomoaki KAWABATA Ryouichi SATO Masahiro SUZUKI	-----277
◇(64)	Reduction of prestress loss of pretensioned prestressed concrete beam by reducing autogenous shrinkage	Masahiro SUZUKI Ryouichi SATO Tomoaki KAWABATA	-----283
◇(65)	Properties of concrete using the paraffin curing agent with small particle size	Doyeon KWAK Chengning WU Datsuo HANADA Michikazu TAWARA	-----289
(66)	Properties of Ultra-High-Strength Concrete Using Silica Fume-Premixed Cement	Shimpei MAEHORI Hitoshi FUJITA Yuji MITANI Makoto TANIMURA	-----295
(67)	Planning and Design of TOYOTATOMOEGAWA Bridge on The New TOMEI Expressway	Toshihiro YOKOTA Masami KUROYANAGI Hiroki YADA Taisuke UESUGI	-----299
(68)	Design of the First PC Corrugated Steel Web Bridge in Taiwan - C707 Project UNIT3 and C708 Project UNIT4 -	Atsuki KUMAYA Tadahiko TSUTSUMI Shusaku KAWABE	-----303

(69)	Design and Construction of Hishidagawa Bridge, Higashi-Kyushu Expressway	Taishi OGINOME Yoshihiro WATANABE Isao NISHIMURA Yoshihiro IWASHITA	-----307
(70)	Construction of Tsubosa Bridge, Tokai-Hokuriku Expressway	Yoshikazu SUZUKA Akihiro NOGUCHI Shigeru YAMAGUCHI Manabu ASAI	-----311
(71)	Design and Construction of the Corrugated Steel Web Bridge with the Wide Span Deck Slab using Cast-in-situ Horizontal Ribs Structure	Naoki NAGAMOTO Norio TEZUKA Ryosuke KOYAMA Yuuji KANAZAWA	-----315
(72)	Design and Construction of Bridge using Corrugated Steel Web as Erection Girder - The new tomei expressway Tabasawagawa Bridge -	Junichi NAKAMURA Masahiro IMAZU Koji IZUTSU Tadashi TOYOTA	-----319
(73)	Construction Ono Bridge	Tatsuto HORIUCHI Yutaka NODA Hideaki TAKAKU Akira MATSUSITA	-----323
◇(74)	Fundamental Study on Transmission Mechanism of the Prestressing Joint between Existing Frame and New Outside Frame	Hiroshi SAKATA Mayumi MORITA Tadashi NAKATSUKA Takao MATSUMOTO	-----327
(75)	Flexural capacity reduction due to sheaths for PT tendons in precast prestressed concrete column sections	Masanori TANI Minehiro NISHIYAMA	-----333
(76)	Practical Study on Simple Prestressing Method by Torque Technic	Kazuo SUZUKI Takeshi TSUNEMATSU Keiji II Yoshifumi NAKAMURA	-----337
(77)	Full-Scale Model Test for PCaPC Flat Rahmen Structures	Ko JO Yoichi CHIBA	-----341
(78)	Design of Senoo 2nd prestressed concrete potable water tank	Kazuki AKAZAWA Hirohiko KIMURA Kazuyuki TAKADA	-----345
(79)	Precast Slurrystore in the eastern part district of Hokkaido	Hiraku ITOH Shiniti TAKEMOTO Kazuyuki SATOH Fujio MUROI	-----349
(80)	A construction report of a large capacitive elevated water reservoir	Tsuneo MOURI Norio BABA Ryou KONDOU Masao ATARASI	-----353

(81)	Effects of Factors on Stability of PC Grout	Shoji NOJIMA Tatsuo OGATA	-----357
(82)	Construction of PC grout using vacuum pump	Mitsutoshi YAMAGUCHI Yuji TSUJI Kazumichi NODA	-----361
◇(83)	Fundamental Study on Inspection Technique of Grounting Condition and Re-grounting method on Tendons of Prestressed Concrete Bridge	Yuuki TAKEUCHI Eisuke NAKAMURA Hiroshi WATANABE Yoshitomi KIMURA	-----365
(84)	A testing on application of non-destructive inspection for filling grout for shearing prestressing bar	Takehiro KAMAMOTO Shoji NOJIMA	-----371
(85)	Confirmation Tests on Protrusion of Lateral Tendons on Prestressed Concrete Bridge	Eisuke NAKAMURA Yuki TAKEUCHI Hiroshi WATANABE Yoshitomi KIMURA	-----375
◇(86)	Production of high performance grout for prestressed concrete with ground granulated blast-furnace slag	Chun-he LI Mitsutoshi YAMAGUCHI Masashi IKEDA Yukikazu TSUJI	-----379