

## **The construction Technology Review and Certification (Sewerage Technology)**

Whole term

2006.4~2007.3

Text P.153~P.198

### **(Purpose)**

For the purpose of smooth and fast introduction of newly developed technology by private enterprises to sewerage works, Japan Institute of Wastewater Engineering Technology 'JIWET' started the business of 'the Construction Technology Review and Certification' in the field of sewerage works, under the authorization by the Ministry of Construction in 1992.

Later in 2001, JIWET jointly with other 13 members (foundations) established 'the Council for the Construction Technology Review and Certification' based on the increasing needs for the development and introduction of new technologies from not only private enterprises but also local governments. Carrying out this business, JIWET has greatly contributed to the promotion of research and development and also to the improvement of the sewerage technology.

Technical areas intended for are classified in 2 categories of the following.

- (1) Technologies related to the planning, design, construction and operation & maintenance.
- (2) Technologies related to machines for construction work, equipments, appliances, and materials.

Other major points of the scheme are as follows ;

- 1) Period: Review and evaluation are to be complete in a fiscal year.
- 2) Term of Validity : 5 years
- 3) Categories : Renewal, Modification, New

### **(Result)**

In 2006 fiscal year, 50 technologies (6 renewal, 21 modification, 23 new technologies) applied by 100 private enterprises were evaluated under the scheme of 'the Construction Technology Review and Certification'.

Those evaluations were conducted based on the guidance of Review and Certification Committee consisting of members with learning and experiences.

Certificates were issued to the following 46 technologies listed below. 4 technologies are to be evaluated in the following fiscal year 2007 because of the delay of testing.

#### **I . Renewal**

1. Corrosion Protective Covering Method (PS Seat Method)  
SHO-BOND CORPORATION
2. Secondary lining method of shield segment by using FRPM pipe  
(FP-L Method) Sekisui Chemical Co., Ltd.
3. Flexible Joint For Sewerage (Santaccap)  
Nihon Step Industry Co., Ltd., HAYAKAWA RUBBER CO., LTD.
4. Flexible Joint For Sewerage (Nishi Tube NXL-HTM)  
NISHI NIPPON ELECTRIC WIRE & CABLE CO., LTD.
5. Repair Method of Sewer Pipes (Snap Lock Method)  
Toa Grout Kogyo Co. Ltd., Obayashi Road Corporation
6. Rehabilitation Method of Sewer Pipes — Inversion Method— (Inpipe Method)  
Toa Grout Kogyo Co. Ltd., Obayashi Road Corporation, Sekisui Chemical Co., Ltd.

## II. Modification

1. Rehabilitation Method of Sewer Pipes — Formation Method•Thermal Forming—  
and Repair Method of Lateral Pipes (EX Method)  
KUBOTA-C.I.CO., LTD., OSAKA BOUSUI CONSTRUCTION CO., LTD.
2. Rehabilitation Method of Sewer Pipes — Inversion Method—  
and Repair Method of Lateral Pipes (GROW Method)  
Gohsay-inter Co., Ltd.,
3. Rehabilitation Method of Sewer Pipes — Formation Method and Inversion Method—  
NIPPON STEEL PIPELINE CO., LTD., Insituform Technologies, Inc.
4. Rehabilitation Method of Sewer Pipes — Formation Method• Thermal Forming—  
and Repair Method of Lateral Pipes (Omega Liner Method)  
Tokyo Metropolitan Sewerage Service Corporation, Sekisui Chemical Co., Ltd.  
ADACHI Construction & Industry Co., LTD.
5. A Quakeproof Coupling for Manholes of Sewer Pipe (Santaccap FD)  
Nihon Step Industry Co., Ltd., HAYAKAWA RUBBER CO., LTD.
6. Flexible Joint for Lateral (Santac Saddle-tee)  
Nihon Step Industry Co., Ltd., HAYAKAWA RUBBER CO., LTD.
7. A Quakeproof Coupling for Manholes of Sewer Pipe (Spacer Joint NIII)  
SHINMEI SANGYO Co., Ltd., SANRITSU Co., Ltd.
8. Repair Method of Sewer Pipe (ASS Method)  
Sumiyoshi Seisakusyo Co., Ltd.
9. Repair Method of Branch Pipe (FRP Branch Pipe Liner System by UV)  
Toa Grout Kogyo Co., Ltd., SGC Gesuido Center Co., Ltd.
10. Repair Method of Sewer Pipe (FRP Short Liner System by UV)  
Toa Grout Kogyo Co., Ltd., SGC Gesuido Center Co., Ltd.
11. Repair Method of Sewer Pipe (FRP Short Liner System by Heat)  
Toa Grout Kogyo Co., Ltd., SGC Gesuido Center Co., Ltd.
12. Repair Method of Sewer Pipe (Super Snap Lock Method)  
Toa Grout Kogyo Co., Ltd., Obayashi Road Corporation
13. A Quakeproof Coupling for Manholes of Sewer Pipe — Jacking Method— (Spacer Joint DR)  
SANRITSU Co., Ltd., Seibupolymer Co., Ltd., SANESU GOMU KOGYO Co., Ltd.
14. A Quakeproof Coupling for Manholes of Sewer Pipe - (Spacer Joint N II s)  
SANRITSU Co., Ltd., SANESU GOMU KOGYO Co., Ltd.
15. Repair Method of Sewer Pipe and Lateral Pipe (EPR Method)  
Nihon Kanro Service Co., Ltd.
16. Rehabilitation Method of Sewage Pipes — Formation Method and Inversion Method—  
and Repair Method of Lateral Pipes (SGICP Method)  
Shonan Plastic MFG Ltd.
17. Rehabilitation Method of Sewer Pipes — Formation Method— (All Liner Method)  
ASAHITEC CORPORATION, KANSEI Kogyo Co., Ltd.
18. Rehabilitation Method of Sewer Pipes — Formation Method— (PALTEM SZ Method)  
Ashimori Industries Co., Ltd., Ashimori Engineering Co., Ltd.
19. Repair Method of Lateral Pipes (HIT Method)  
ARMS HIGASHINI HON Co., Ltd.
20. Flexible Socket For Lateral (Mechanical Lock System Branch)  
SANRITSU Co., Ltd., SHINMEI SANGYO Co., Ltd., KUBOTA-C.I.CO.,LTD.  
Sekisui Chemical Co., Ltd., Mitsubishi Plastics, Inc.

### III. New Technology

1. Method for constructing sewer pits by using future-oriented rotating-pushing-down machines (kouwa method)  
Kouwa Co., Ltd. Nakagawa Hume Pipe Industry Co., Ltd.
2. Rainwater storage and infiltration facilities composed of plastic blocks (Hydro Stuff)  
THE FURUKAWA ELECTRIC CO., LTD.
3. Rainwater storage and infiltration facilities composed of plastic blocks  
EBATA Corporation, ARONKASEI CO., LTD., KUBOTA-C.I.CO., LTD.
4. Flexible joint box culvert (IB Flexible joint box culvert)  
GEOSTAR Corporation
5. Rehabilitation Method of Sewer Pipes — Inversion Method—  
and Repair Method of Lateral Pipes (EPOFIT Method )  
Shikoku Kankyou Seibi Kougyo Co., Ltd.
6. Repair Method of Sewerage Facilities (Crystal Lining Method)  
Toyo Kakoki Corporation
7. Rehabilitation Method of Sewer Pipes — pipe creation method— (PFL Method)  
FRP Support Service Co., Ltd., Okumura Engineering Corporation , KFC Co. Ltd.,  
Daiko Road Management Co., Ltd., TMS Higashi Nihon Co., Ltd., Fujino Kougyo Co., Ltd.
8. Technology for Preventing Flotation of Sewer Manhole Due to Ground Liquefaction (Earth Drain Method)  
Chikagiken Co., Ltd.
9. Repair Method of Lateral Pipes (EPERF method)  
Nakagawa Hume Pipe Industry Co., Ltd. Miyama Kogyo Co., Ltd.,  
Aikawa Kanri Co., Ltd., Azuma Gomu Kogyo Co., Ltd.
10. Quantitative Sewerage Pipeline Inspection Method (Impact Elastic-Wave Methods)  
Sekisui Chemical Co., Ltd., Rehabilitation Research Laboratory Co., Ltd.
11. Technology for Preventing Flotation of Sewer Manhole Due to Ground Liquefaction (Float— less Method)  
Tokyo Metropolitan Sewerage Service Corporation, NIPPON HUME CORPORATION, Nippon Koei Co., Ltd.
12. Rehabilitation Method of Sewer Pipes — sheath pipe method— (CS Method)  
KENSEI Co., Ltd.
13. Repair Method of Sewer Pipes and Lateral Pipes (CP Method)  
KENSEI Co., Ltd.
14. Repair Method of Lateral Pipes (Paltem Lining For Sewer Lateral Connections Using Lining Material with Brims)  
Ashimori Industries Co., Ltd., Ashimori Engineering Co., Ltd.,
15. High-Rate Moving Bed Up-Flow Sand Filter (High-Rate Sand Filter)  
TAKUMA Co., Ltd.
16. Sewage Sludge Dryer for Reuse (Cyclone Dryer)  
YUNITIKA LTD., OKADORA Co., Ltd., Chuo Seisou Co., Ltd.
17. Back Raked Screen (Side Rail Screen)  
Sumitomo Heavy Industries Environment Co., Ltd.
18. Flexible Fiber Filter Module (3FM Flexible Fiber Filter Module)  
Nishihara Environment Technology, Inc.
19. Traveling Water Screen (High-Capacity Wise-Flow)  
Hitachi Plant Technologies , Ltd.
20. Air Diffuser (Fine Bubble Membrane Diffuser)  
DAICEN MEMBRANE—SYSTEMS Ltd., Daiki Ataka Engineering Co., Ltd..  
Kurita Water Industries Ltd., Mitsui Engineering & Shipbuilding Co., Ltd.

Key words

Examination proof, rehabilitation technology, technology of making to earthquake-proof, concrete anti-corrosion coating industrial method, materials for sewage, technology for sewage treatment