

Efforts to Establish a JIS Standard for Sewer Pipe Renovation Method

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1. Introduction

This renovation method installs a new pipe inside an existing pipe in order to secure the load bearing capacity and discharge capacity of deteriorated sewers (Fig. 1). Since it enables renovation without replacing existing pipes, this method is essential for extending the life of pipes. The use of this method has been steadily increasing in recent years (Fig. 2) and similar methods have also been developed.

Since most other methods require that materials delivered to the site as semi-finished products be processed at the site and liner pipes be assembled at the site as finished products, construction should be managed at the site in accordance with specifications prepared for each project and in compliance with control procedures and values. From this viewpoint, the ISO has already established "ISO 11296s Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks." However, this standard is based on design concepts available in Europe and the USA, in which seismic performance and other construction conditions differ from those in Japan, so it is necessary to establish a national standard (JIS standard) based on the construction conditions in Japan.

2. Outline of JIS standard to be established

In establishing a JIS standard, it is necessary for the national government to coordinate between providers (manufacturers and constructors) and users (sewerage service provider) from a neutral position. Therefore, a JIS Standard Review Committee, in which the Wastewater System Division of NILIM serves as the executive office, was established to discuss sewer pipe renovation methods in fiscal 2011 and prepared a draft of a national standard (JIS standard) for renovation methods with consideration for ISO standards, seismic performance, etc. at the end of 2012. The draft provides the required performance and requirements for ensuring quality in the steps of manufacturing liner material and constructing liner pipes for each of the methods for close-fit pipes, cured-in-place pipes, spirally-wound pipes, and assembly pipes. The draft is characterized as an attempt to establish standards, before the ISO, for required performance of assembled pipes, design methods for the thickness of liner pipes, etc., which are not standardized by the ISO, based on the existing standards of organizations ¹⁾ in Japan.

3. Future development

At present, the process to establish the new JIS standard under the joint control of the MLIT and the METI is ongoing, and discussions are being made from the viewpoint of whether the trade barriers stipulated by WTO/TBT are applicable. In fiscal 2014, the plan is to establish the draft as a standard. Establishment of this new JIS standard is expected to promote the efforts of manufacturers and constructors to ensure the quality of pipe renovation methods, as well as overseas development of domestic pipe manufacturers.

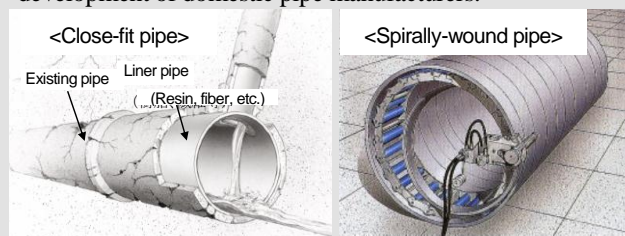


Figure 1: Example of Sewer Pipe Renovation Method

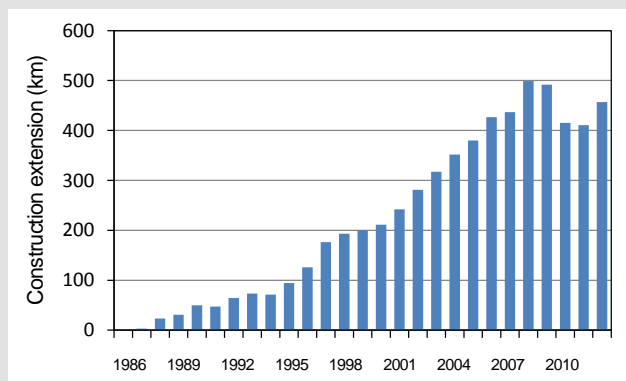


Figure 2: Construction results of Renovation Method by Year ²⁾

[Reference]

- 1) Design and Construction Management Guideline in Sewer Pipe Renovation Method (Draft), Japan Sewage Works Association, Dec., 2011.
- 2) From material published by the Japan Pipe Rehabilitation Quality Assurance Association.