



Advisory Guideline DWA-M 144-3E

Supplementary Technical Contract Conditions (ZTV) for the Rehabilitation of Drainage Systems outside of Buildings

Part 3: Renovation with Hose Liner Process (locally cured hose liner) for Sewers

November 2012

Zusätzliche Technische Vertragsbedingungen (ZTV) für die Sanierung von Entwässerungssystemen
außerhalb von Gebäuden

Teil 3: Renovierung mit Schlauchliningverfahren (vor Ort härtendes Schlauchlining)
für Abwasserkanäle

November 2012

German DWA Set of Rules

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Publisher/Marketing:

German Association for Water, Wastewater and Waste
Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall e. V.

Theodor-Heuss-Allee 17 · 53773 Hennef · Germany

Tel.: +49 2242 872-333 · Fax: +49 2242 872-100

E-Mail: info@dwa.de · Internet: www.dwa.de

The German Association for Water, Wastewater and Waste (DWA) is strongly committed to the development of secure and sustainable water and waste management. As a politically and economically independent organisation it is professionally active in the field of water management, wastewater, waste and soil protection.

In Europe DWA is the association with the largest number of members within this field. Therefore it takes on a unique position in connection with professional competence regarding standardisation, professional training and information. The approximately 14,000 members represent specialists and executives from municipalities, universities, engineering offices, authorities and companies.

Imprint

Publisher and marketing:

DWA German Association for
Water, Wastewater and Waste
Theodor-Heuss-Allee 17
53773 Hennef, Germany
Tel.: +49 2242 872-333
Fax: +49 2242 872-100
E-Mail: info@dwa.de
Internet: www.dwa.de

Translation:

COMLOGOS GbR

Printing:

Druckhaus Köthen

ISBN:

978-3-944328-10-2

Printed on 100 % recycled paper

© DWA Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall e. V., Hennef 2013, Germany
German Association for Water, Wastewater and Waste

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Foreword

Damaged wastewater pipes and sewers represent a hazard to the environment, especially the groundwater and soil. There is a considerable variety of experience available in rehabilitating damage by the use renovation processes with on-site cured-in-hose liners.

This Part 3 of the Advisory Guideline DWA-M 144 supplies supplementary harmonised standardised technical contract conditions for this process of sewer renovation. In the following, terms are used that are consistent with DIN EN 752 "Drain and sewer systems outside buildings".

General

The Association of Certified Rehabilitation Consultants for Drainage Systems (VSB) has developed proven processes for the internal renovation of drainage systems in the past years and issued "Supplementary Technical Contract Conditions" as recommendations directly to the authors of invitations to tender or recommended as application.

These VSB recommendations represent a definitive basis for the development of the series of Advisory Guideline DWA-M 144 "Supplementary Technical Contract Conditions (ZTV) for the Rehabilitation of Drain and Sewer Systems outside Buildings".

DWA and VSB have decided to cooperate in order to make uniform Supplementary Technical Contract Conditions (ZTV) available to users in the future. For this, a joint working group will ensure that the proven and further-developed ZTV content will be published in the appropriate Advisory Guidelines in conformity with the existing DWA Set of Rules.

The VSB will withdraw its own recommendations (ZTV) as soon as the corresponding DWA Advisory Guidelines are published.



Earlier issues

VSB Recommendation No. 5 "Pipe Lining in Sewers"

Authors

The Advisory Guideline was compiled by the DWA working group ES-8.15 "Supplementary Technical Contract Conditions for Rehabilitation Processes" within the DWA expert committee "Status Assessment and Rehabilitation". This DWA working group consists of the following members:

BEUNTNER, Andreas	Dipl.-Ing., Munich
CONRAD, Jürgen	Dipl.-Ing., Euskirchen
DROBNY, Detlev	Dipl.-Ing., Stuttgart
HEINLEIN, Mario	Dipl.-Ing., Nuremberg (spokesperson)
HIMMELREICH, Kai	Dipl.-Ing., Kassel
HOLZHAUSEN, Torsten	Dipl.-Ing., Wahrenholz
HOPPE, Franz	Dipl.-Ing., Hamburg (deputy spokesperson)
SCHÄFER, Thomas	Dipl.-Ing., Stuttgart
SCHMIDT, Olaf	Dipl.-Ing., Dortmund
STRAFF, Georg	Dipl.-Ing., Cologne
VOGEL, Markus	Dipl.-Ing., Kappelrodeck
VOLTZ, Bernd	Dipl.-Ing., Frankfurt am Main
WOLLSCHIED, Heinz	Dipl.-Ing., Erfstadt
ZECH, Horst	Dipl.-Volksw., Lingen (Ems)
ZINN, Volker	Dipl.-Ing., Karlsruhe

The following were involved as guest members:

HÜPERS, Fred	Dipl.-Ing., Detmold
KRÖLLER, Wilhelm	Rohrbach
THOMA, Robert	Dipl.-Ing., Würzburg

Project counsellor in the DWA head office:

BERGER, Christian	Dipl.-Ing., Hennef Department Water and Waste Management
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User Notes

This Advisory Guideline has been produced by a group of technical, scientific and economic experts, working in an honorary capacity and applying the rules and procedures of the DWA and the Standard DWA-A 400. Based on judicial precedent, there exists an actual presumption that this document is textually and technically correct.

Any party is free to make use of this Advisory Guideline. However, the application of its contents may also be made an obligation under the terms of legal or administrative regulations, or of a contract, or for some other legal reason.

This Advisory Guideline is an important, but not the sole, source of information for solutions to technical problems. Applying information given here does not relieve the user of responsibility for his own actions or for correctly applying this information in specific cases. This holds true in particular when it comes to respecting the margins laid down in this Advisory Guideline.

1 Scope

The supplementary technical contract conditions for on-site curing of hose liners (referred to as "ZTV lining" in the following) treat the renovation of wastewater pipes and sewers outside buildings, which are operated as gravity systems. These are defined so that the construction tendering and contract regulations – Part C: General technical specifications in construction contracts (ATV) and especially the:

- ATV DIN 18299 "General construction contract procedures" and the
- ATV DIN 18326 "Renovation works on drainage channels"

are integral parts of the construction contract.

The non-italic text represents "supplementary technical contract conditions" as understood in § 1, Number 2.4 VOB Part B – DIN 1961, if the ZTV pipe liners are part of the construction contract.

Paragraphs printed in italics are "Directives"; they are to be observed by the client when setting out the functional tender and in the supervision and acceptance testing of the construction work.

All standards that apply for the process as well as DWA Standards are constituent parts of the contract unless otherwise regulated by this paper.

If the system manufacturer/applier of the hose liner product being tendered makes stipulations regarding its use that go beyond the requirements of this ZTV hose lining, these are definitive and are to be included with the other items in the estimation.

2 Terms

The following definitions shall apply

- Those of DIN EN 752
- Those of Standard DWA-A 143-3¹⁾,
- Those of the Advisory Guideline ATV-M 127-2.

3 Notes for Authors of Invitations to Tender

Notes for the compilation of the functional tender and the preparation of the invitation to tender are shown in Advisory Guideline DWA-M 144-1.

4 Construction Materials

If further-reaching tests are requested in addition to those described below, these are to be defined in the functional tender.

4.1 Requirements for Construction Materials

4.1.1 Resin-Based Systems

Resin-based systems named in Standard DWA-A 143-3 shall be used (see Table 1). A proof of suitability for

1) The Standard DWA-A 143-3 is in the draft state at the time of going to press of the DWA M 144-3 Advisory Guideline. The last issue of the DWA A 143-3 Standard shall apply (including all amendments).