

# GERMAN **ATV-DVWK** RULES AND STANDARDS

## **ADVISORY LEAFLET ATV-DVWK-M 275E**

### **Pipelines for the Field of the Technical Equipping of Wastewater Treatment Plants**

May 2001



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The German Association for Water, Wastewater and Waste, DWA (former ATV-DVWK), is the spokesman in Germany for all universal questions on water and is involved intensely with the development of reliable and sustainable water management. As politically and economically independent organisation it operates specifically in the areas of water management, wastewater, waste and soil protection.

In Europe the DWA is the association in this field with the greatest number of members and, due to its specialist competence it holds a special position with regard to standardisation, professional training and information of the public. The ca. 14,000 members represent the experts and executive personnel from municipalities, universities, engineer offices, authorities and businesses.

The emphasis of its activities is on the elaboration and updating of a common set of technical rules and standards and with collaboration with the creation of technical standard specifications at the national and international levels. To this belong not only the technical-scientific subjects but also economical and legal demands of environmental protection and protection of bodies of waters.

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## **Foreword**

Pipelines form a crucial point in the technical equipment of wastewater treatment plants. They serve for the conveyance of the media which is to be treated and utilised (liquids with and without solid matter component, gases). Pipelines are to be found in all areas of the technical equipment of wastewater treatment plants.

Pipelines can be subjected to widely differing stresses (static and dynamic), corrosion (caused by the medium and/or the environment), abrasion, erosion, temperature (heat, cold) etc. The selection of the pipe material and the dimensioning of the pipelines with regard to diameter and wall thickness demand a high degree of specialist knowledge above all with regard to the type of stress, the material characteristic values, the possibilities for processing and not the least the comprehensive standard specifications and regulations associated with this field.

With this Advisory Leaflet planners, those inviting tenders and those responsible for decisions are to be provided with assistance in achieving professional and economic solutions.

In many cases proven solutions can be recommended, in other cases reference has to be made to technical documents and regulations in order to develop proper standards for invitation to tender and for the implementation in terotechnology.

## **Authors**

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## User Notes

This Advisory Leaflet is the result of honorary, technical-scientific/economic collaboration which has been achieved in accordance with the principles applicable therefore (statutes, rules of procedure of the ATV-DVWK and the Standard ATV-DVWK-A 400). For this, according to precedents, there exists an actual presumption that it is textually and technically correct.

The application of this Advisory Leaflet is open to everyone. However, an obligation for application can arise from legal or administrative regulations, a contract or other legal reason.

This Advisory Leaflet is an important, however, not the sole source of information for correct solutions. With its application no one avoids responsibility for his own action or for the correct application in specific cases; this applies in particular for the correct handling of the margins described in the Advisory leaflet.

## 1 Area of Application

In this Advisory Leaflet information is provided for the planning, execution and testing of pipelines for the area of technical equipment in wastewater treatment plants. With this, the special requirements of wastewater treatment plant-specific media on metal and plastic pipes are taken into account. This Advisory Leaflet can also be applied analogously for pipelines in wastewater treatment facilities and pumping stations outside wastewater treatment plants.

There are numerous standard specifications and regulations on the dimensions, materials, requirements on testing, planning and execution of pipelines. With this Advisory Leaflet the handling of these comprehensive standard specifications and standards is to be made easier through limitation to the wastewater treatment plant-specific application case.

Furthermore, experience is to be passed on as to which materials, designs etc. have proved themselves for the respective cases of application in wastewater treatment plants (e.g. medium, temperature, pressure).

The following are not dealt with in this Advisory Leaflet:

- inlet and outlet sewers,
- sewers within the wastewater treatment plant,
- pipelines made from mineral construction materials (e.g. concrete, cement fibres, vitrified clay etc.),

- building services pipelines,
- cable protection pipes.

Below are given solutions as to how technical requirements can be met. They do not exclude other at least equally secure solutions such as, for example, are contained in the technical rules of other member states of the European Union or other partner states of the Agreement on the European Economic Area.

## 2 Abbreviations Used

[Translator's note: with one exception all German abbreviations are used in the translation]

AFP	Asbestos-free fibrous material slabs
AGI	German Working Group for Industrial Construction
ATV-DVWK	German Association for Water, Wastewater and Waste
CE (designation)	EC Mark of Conformity
CSM	Chlorosulphonated polyethylene
DampfkV	German Ordinance on Steam Boiler Installations
DIN	DIN-German Institute for Standardisation
EN	European Standard
DruckbehV	German Ordinance on Pressure Vessels, Compressed Gas Tanks and Filling Facilities
DVGW	German Technical and Scientific Association for Gas and Water