

Above-ground Cylindrical Flat-bottomed Tank Installations of Metallic Materials

Fundamentals, Design, Tests

DIN
4119
Part 1

No guarantee can be given in respect of this translation.
In all cases the latest German-language version of this Standard shall be taken as authoritative

Oberirdische zylindrische Flachboden-Tankbauwerke aus metallischen Werkstoffen;
Grundlagen, Ausführung, Prüfungen

This Standard has been drawn up in the Fachbereich "Stahlbau" (Technical Division "Steel Construction") of the NABau (Standards Committee Building Construction). The Institut für Bautechnik (Institute for Building Technology), Berlin, has recommended to the oberste Bauaufsichtsbehörden (Highest Building Inspection Authorities) that it be adopted for the purposes of building supervision.

The design, calculation and construction of the steel components of tank installations call for a thorough knowledge of steel and tank construction and of the accepted rules thereof. For this reason, only those contractors who employ staff possessing this knowledge and are able to ensure satisfactory execution may perform such work.

DIN 4119 is divided into

Part 1 Fundamentals, design, tests

Part 2 Calculation (subsequent edition at present still in draft form)

Contents

	Page
1 Scope	1
2 Other relevant Standards and documents	1
3 Foundation	2
4 Protection against corrosion	3
5 Materials	3
6 Construction	6
7 Testing of welded joints in the tank	7
8 Leak tests and measurements of settlements	9
9 Equipment and marking of the tank	10
10 Functional tests of equipment components	10
11 Additional directives for floating roofs and floating covers	11
12 Metal collecting shells and collecting basins	14

1 Scope

This Standard applies to above-ground vertical cylindrical containers with a bottom in full contact with the ground and a fixed roof (with or without a floating cover) or a floating roof for the storage of liquids or of refrigerated gases in liquid form at atmospheric pressure or at slight over-pressures or under-pressures.

Special arrangements differing from this Standard may be agreed for unusual types of tank installations. In each individual case, they require the approval of the competent building inspection authority.

2 Other relevant Standards and documents

2.1 Other relevant documents

For flammable and water-hazardous stored products and for special operating systems, the following statutory regulations and requirements ¹⁾ are also applicable.

2.1.1 Regulation on the Erection and Operation of Installations for the Storage, Filling and Transport of Inflammable Liquids (VbF), with Annexes and Technical Rules (TRbF).

2.1.2 Provincial regulations on the storage of water-hazardous liquids ²⁾ (VLwF) or of water-hazardous substances (VLwS), together with Administrative Regulations (e.g., VVLwF) and Technical Provisions (e.g., TVLwF).

2.1.3 Provincial guidelines on the construction and operation of tank installations for the storage of fuel oil, such as the Guidelines on Oil Tanks or the Guidelines on Fuel Oil Containers (HBR).

¹⁾ These regulations also govern the engagement of experts qualified to conduct certain tests.

²⁾ For details, see Lagerverordnung (Storage Order), obtainable from Richard Boorberg Verlag, München.

Continued on pages 2 to 14