## **DIN 2460**



ICS 23.030.10

Together with DIN EN 10224:2005-12 and DIN EN 10311:2005-08 supersedes DIN 2460:1992-01

## Steel water pipes and fittings

Stahlrohre und Formstücke für Wasserleitungen

Document comprises 34 pages

Translation by DIN-Sprachendienst

In case of doubt, the German-language original should be consulted as the authoritative text.



# Contents

	Pa	ige
Forewo	ord	3
1	Scope	3
2	Normative references	4
3	Terms and definitions	5
4	General	6
5 5.1 5.2 5.3	Designation and ordering information  Designation  Ordering information  Additional ordering information	7 7
6	Pipes	. 10
7	Fittings	. 10
8 8.1 8.2 8.3	Dimensions and tolerances  General  Outside diameter and wall thickness  Lengths	. 11 . 11
9 9.1 9.2 9.3 9.4 9.5	Joints for pipes and fittings	. 11 . 11 . 11 . 12 . 12
10 10.1 10.2	Linings Drinking water pipelines Pipelines for other aqueous media	. 12
11 11.1 11.2 11.3 11.4 11.5	Coatings  General requirements  Polyethylene coatings  Polypropylene coatings  Fibre cement mortar coatings (FZM)  Other coatings	. 12 . 12 . 12 . 13
12	Inspection certificates	. 13
13	Marking	. 13
Annex	A (normative) Steel grades according to DIN EN Standards	. 20
Annex	B (informative) Static calculation of buried steel pipe	. 22
Annex	C (informative) Calculation of wall thicknesses for internal pressure	. 26
Annex	D (informative) Support and bedding of steel pipes	. 29
Annex	E (informative) Calculation of unsupported spans in steel pipelines	. 31
Bibliod	graphy	. 34

## **Foreword**

This standard has been prepared by Technical Committee NARD-4 Stahlrohre of the Normenausschuss Rohrleitungen und Dampfkesselanlagen (NARD) (Piping and Boiler Plant Standards Committee). The general requirements for water supply and sewer systems specified by CEN/TC 164 and CEN/TC 165 have been taken into consideration in this revision. The present standard gives requirements for various pipe and fitting designs, depending on the application; these requirements may be included in the technical delivery conditions.

#### **Amendments**

This standard\*) differs from DIN 2460:1992-01 as follows:

- a) Definitions from European Standards have been included.
- b) Requirements which are dealt with in DIN EN 10224 and DIN EN 10311 have been deleted.
- c) Wall thickness calculations as in DIN 2413-1 (withdrawn) have been included.
- d) The standard has been editorially revised.

#### **Previous editions**

DIN 2460: 1942-11, 1965-12, 1966-05, 1980-12, 1992-01

DIN 2461: 1942-11, 1965-12, 1966-05

## 1 Scope

This standard gives design requirements for steel pipe and fittings used in water supply and sewer systems under static and operating conditions.

Although this standard primarily applies to drinking water and sewer systems, it also applies to pipes and fittings used in systems conveying other aqueous media (e.g. raw, process, and cooling waters) as well as seawater, saltwater and brines. It does not, however, apply to domestic installations.

The dimensions of pipes as in this standard are calculated for the allowable operating pressures specified for a given pipeline component as well as the expected external loads. The wall thickness of components made from steels listed in the tables need not be specially calculated if the intended operating pressure does not exceed the appropriate values specified in these tables, or if the thickness is not less than the specified nominal thickness. In all other cases, an appropriate stress-strain analysis is required.

<sup>\*)</sup> This English translation also includes amendments from a Corrigendum to DIN 2460 (DIN 2460 Ber 1) which was published in April 2007. These are shaded grey.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

DIN 1072, Road and foot bridges — Design loads

DIN 2605-1, Steel butt-welding pipe fittings — Elbows and bends with reduced pressure factor

DIN 2605-2, Steel butt-welding pipe fittings — Elbows and bends for use at full service pressure

DIN 2609, Steel butt-welding pipe fittings — Technical delivery conditions

DIN 2615-1, Steel butt-welding pipe fittings —Tees with reduced pressure factor

DIN 2615-2, Steel butt-welding pipe fittings — Tees for use at full service pressure

DIN 2616-1, Steel butt-welding pipe fittings — Eccentric reducers with reduced pressure factor

DIN 2616-2, Steel butt-welding pipe fittings — Reducers for use at full service pressure

DIN 2617, Steel butt-welding pipe fittings — Caps — Dimensions

DIN 2880:1999-01, Application of cement mortar lining for cast iron pipes, steel pipes and fittings

DIN 30670, Polyethylene coatings for steel pipes and fittings — Requirements and testing

DIN 30675-1, External corrosion protection of buried pipes — Corrosion protection systems for steel pipes

DIN 30678, Polypropylene coatings for steel pipes

DIN 50929-3, Probability of corrosion of metallic materials when subject to corrosion from the outside — Buried and underwater pipelines and structural components

DIN EN 10204, Metallic products — Types of inspection documents

DIN EN 10208-1, Steel pipes for pipelines for combustible fluids — Technical delivery conditions — Part 1: Pipes of requirement class A

DIN EN 10208-2, Steel pipes for pipelines for combustible fluids — Technical delivery conditions — Part 2: Pipes of requirement class B

DIN EN 10216 series, Seamless steel tubes for pressure purposes — Technical delivery conditions

DIN EN 10217 series, Welded steel tubes for pressure purposes — Technical delivery conditions

DIN EN 10220, Seamless and welded steel tubes — General tables of dimensions and masses per unit length

DIN EN 10224, Non-alloy steel tubes and fittings for the conveyance of water and other aqueous liquids — Technical delivery conditions

DIN EN 10253-1, Butt-welding pipe fittings — Part 1: Wrought carbon steel for general use and without specific inspection requirements

DIN EN 10298:2005-12, Steel tubes and fittings for onshore and offshore pipelines — Internal linings with cement mortar