

Place your order here

// www.beuth.eu

// Phone: +49 30 2601-2759

// Fax: +49 30 2601-1263

// E-mail: foreignsales@beuth.de

Beuth is DIN's publishing house. The quickest way to purchase standards is to download documents from the website via »MyBeuth«.

Do not hesitate to contact us with queries or comments.

CONTACT »GEODESY« NATIONAL COMMITTEE

Convenor:

Prof. Dr.-Ing. Karl-Hans Klein
Bergische Universität Wuppertal
Pauluskirchstraße 7
42285 Wuppertal
E-mail: khklein@uni-wuppertal.de

Vice Convenor:

Prof. Dr.-Ing. Otto Heunecke
Institute of Geodesy,
University of Federal Armed Forces Munich
Werner-Heisenberg-Weg 39
85577 Neubiberg
E-mail: otto.heunecke@unibw.de

Project Manager:

Dipl.-Ing. (FH) Maike Gottschalk
DIN Deutsches Institut für Normung e. V.
Am DIN-Platz
Burggrafenstraße 6
10787 Berlin
E-mail: maike.gottschalk@din.de



DIN, the German Institute for Standardization

DIN has been based in Berlin since 1917. It offers a platform for the development of consensus-based standards as a service to industry, the state and society. A registered non-profit association, DIN's primary task is to work closely with its stakeholders to meet market requirements. Some 28,000 experts contribute their skills and experience to the standardization process. By agreement with the German Federal Government, DIN is the acknowledged national standards body that represents German interests in European and international standards organizations. Today, ninety percent of the standards work carried out by DIN is international in nature.

NA 005 Building and Civil Engineering Standards Committee (NABau)

As an organ of DIN, the NABau reviews all proposals for standardization in the field of building and civil engineering. Processing of such proposals is feasible whenever there is a legitimate interest and guaranteed funding is available to cover the associated operating costs. In addition to national standards, the NABau participates in European and international standardization in its fields of activities.

FB 03 Surveying and Mapping, GeoInformation

This section of NABau is responsible for standardization relating to surveying, mapping and geoInformation in general. FB 03 comprises four committees, including the »Geodesy« committee responsible for drafting DIN 18710.

www.din.de
www.nabau.din.de

BUILDING AND CIVIL ENGINEERING STANDARDS COMMITTEE (NABAU)

DIN 18710 Engineering Surveys Parts 1–4

The national series of standards on surveys for civil engineering works and their elements is now available in English translation and is the ideal basis for international engineering survey applications.

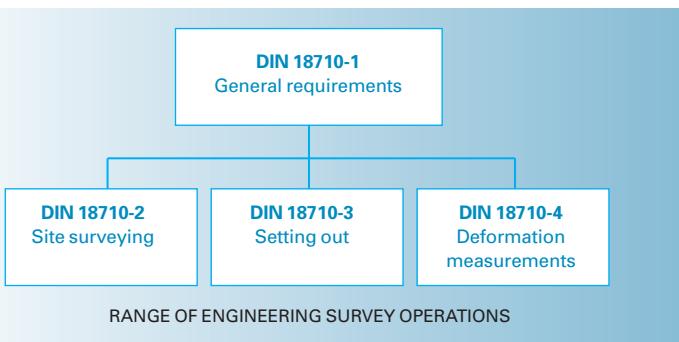


DIN GERMAN INSTITUTE FOR STANDARDIZATION



DIN 18710 Engineering surveys

The DIN 18710 series of standards Parts 1 – 4 dates from September 2010. As no equivalent standard exists at the international level, the series has been translated into English and published in spring 2012. DIN 18710 establishes accepted technical rules and can be applied by all involved in engineering survey practice.



The series of standards defines general requirements for surveys for civil engineering constructions and their elements (e.g. industrial facilities, transport facilities, machinery plants) as well as accompanying phenomena (such as settlement). It covers the range of surveying operations associated with technical projects of other trades and disciplines, characterizes typical engineering surveys and provides them with a basic framework.

The need for the series of standards was identified mainly because of the lack of general guidance available to the parties involved in engineering surveys. Part 1 forms the basis for the other three parts, which deal with site surveying, setting out and deformation measurements. DIN 18710 is intended to help users to optimize the organization of engineering surveys. The series of standards has already become an important technical basis for contracts and for the execution and evaluation of engineering surveys. However, the standards do not require obligatory use of specific techniques or instruments; neither do they contain recommendations on how to execute a survey in every detail.

Overview of DIN 18710

PART 1, GENERAL REQUIREMENTS

Specifies general requirements applying to surveys of construction works and parts of such (e.g. industrial plants, transport infrastructure) and of other objects. The specifications and verification processes of this standard are also an aid to drawing up agreements on surveying work. This standard also serves to standardize the quality and verification of surveys by ensuring that the results of surveys are interpreted unambiguously.

PART 2, SITE SURVEYING

Applies to the planning, execution, evaluation and documentation of site surveys (inventory surveys). It defines the essential requirements on measurements to determine the position and sizes of objects. Site surveys are conducted when the results are needed to plan and obtain permits for projects, acceptance and verification inspections, compile as-built documentation, and create geo-spatial databases.

PART 3, SETTING OUT

Specifies the general requirements on setting out work for construction works and parts of such (e.g. industrial plants, traffic facilities) and for other objects. The objectives of this standard are to define agreements on setting out, ensure the quality of setting out work, standardize documentation of setting out work, and achieve verified survey results.

PART 4, DEFORMATION MEASUREMENTS

Applies to planning, execution, evaluation and documentation of deformation measurements. Surveys are carried out to monitor technical objects (e.g. buildings, machinery and plant) and natural objects (e.g. embankments, landslides) and to document the state of the respective objects. Interpretation of the results other than for the purpose of evaluating deformation measurements is no subject, but it is intended to ensure the quality of the proofs obtained by the measurements.

Contents

Example: Part 1, General requirements

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
3.1 Purpose of engineering surveys	5
3.2 Reference systems	6
4 Engineering survey requirements.....	7
4.1 General.....	7
4.2 Task description	7
4.3 Survey programme	8
4.4 Measurement procedures	8
4.5 Measuring instruments	9
4.6 Measurement accuracy	9
4.7 Documents	10
4.8 Execution	11
4.9 Evaluation	11
4.10 Documentation.....	11
Annex A (informative) General principles of metrology in engineering surveys	12
Annex B (informative) General principles of sizes and tolerances	21
Annex C (informative) Examples of survey marks.....	24
Annex D (informative) Explanatory notes on the relationship between size tolerance and standard deviation	27
Bibliography	29
Alphabetical index	30

The content of Parts 2 to 4 is based on this general outline. Informative annexes provide the user with explanations and examples. The standard series comprises about 100 pages in total.

OBJECTIVES OF DIN 18710

The main objectives are to:

- > establish general principles;
- > describe requirements for surveys;
- > achieve better communication between the different partners involved; and
- > ensure legal protection and help develop mutual trust between partners.

DIN 18710 is structured methodically and reflects established technical rules in order to provide a framework for contracts. By defining general requirements, the series makes contract letting easier, enables surveys to be carried out according to a well-structured regime, and provides rules for evaluation and documentation. User expertise is nevertheless required as much as ever in order to implement the requirements in actual applications.