
DAP-TM-01

Provisions for the application of DIN EN ISO/IEC 17020 for the accreditation of inspection bodies

Provisions for the application of DIN EN ISO/IEC 17020) for the accreditation of inspection bodies

1 Independence

The categorisation of inspection bodies according to the types A, B, C represents only a characterisation of the state of independence. It is by no means a measure for the competence or quality rating of the inspection body.

An inspection body of **Type A** is a classical independent "Third Party". It receives external applications for inspection of (not own /external) products and delivers inspection reports to the external applicants.

However, an inspection body of **Type B** is **always** part (separate and identifiable) of an organisation dealing with products to be inspected (see above). It inspects **only** the own (internal) products of the organisation, an identifiable part of which it is, and it delivers the **inspection reports only to the internal client**.

An inspection body of **Type C** is part of an organisation dealing with products to be inspected, whereby this part is **not clearly separated**, but identifiable of an organisation dealing with the products to be inspected (see above). It inspects both the **own/internal products** and **similar or competitive products** and delivers its **inspection reports** both to **internal** and **external clients**.

The independence of an inspection body is defined as follows:

Type A: The Type A inspection body needs to be **independent** from the parties involved in the inspection. It is an "impartial third party", i.e. to be compared with a **Third Party institution**; comp. also DIN EN ISO/IEC 17020, par. 4.2.1 and Annex A as well as EA-IAF/ILAC-A4, par. 4.2.1a.

Type B: The Type B inspection body forms a clearly **separated and identifiable part** of an organisation involved in **design, manufacture, supply, installation, use, operation or maintenance of items that they inspect**. It was established to supply **inspection services to the organisation to which it is affiliated** (comp. also DIN EN ISO/IEC 17020, par. 4.2.2 and Annex B, in particular **B.3 as well as EA-IAF/ILAC-A4 4.2.2a**).

Type C: The Type C inspection body is involved in the design, manufacture, supply, installation, use, operation or maintenance of items that they inspect, or which are similar to those inspected by it and which compete with them on the market. It may also supply inspection services to other organisations than the organisation **to which it is affiliated** (comp. also DIN EN ISO/IEC 17020, par. 4.2.3 and Annex C as well as EA-IAF/ILAC-A4, par. 4.2.3a).

Requirements for Type A:

The Type A inspection body may have different forms of organisation. **On the one hand**, it can be a (legally) independent organisation, **on the other hand**, it can also be a separate and identifiable part of an organisation, **not** involved in design, manufacturing, distribution, construction, use, operation and maintenance of items or competing objects **it inspects**.

It refers to Type A only, if - in addition to the legal independence from the client - also the factual independence is satisfactorily shown.

A Type A inspection body, to claim to be independent of the parties involved, shall demonstrate that it is not linked to the parties directly involved in design, manufacture, supply, installation, purchase, ownership, use or maintenance of the items it inspects or similar competitive items by (EA IAF/ILAC-A4 par. 4.2.1a):

- common ownership (except where the owners have no ability to influence the outcome of an inspection)
- common ownership appointees on the boards (or equivalent) of the organisations, except where these have functions that have no influence on the outcome of an inspection
- directly reporting to the same higher level of management
- contractual arrangements, informal understandings or other means that may have an ability to influence the outcome of an inspection

This analysis of interrelated bodies shall be documented appropriately

The Chief Executive of the legal entity shall define and document its policy for maintaining the Type A status of the Inspection

2 Type of review (identifying the basis of how inspection is conducted)

The scope to be specified on the accreditation certificate shall always finish with a statement on the type of review of the accredited service, thus **either** (from the definition of inspection, DIN EN ISO/IEC 17020, par. 2.1, EA-IAF/ILAC-A4 pars. 2.1c, 2.1d)

type of review according to predetermined requirements that is only characterised by the "determination of conformity with specific requirements" (conformity assessment based on a simple comparison with standards or on characteristic values predetermined on a comparable basis),

Text in the scope:

... and determination of its conformance with specific requirements

and / or

professional type of review describing the "determination of conformity – on the basis of a professional judgement – with **general** requirements.

Text in the scope:

... and determination of its conformance – based on a professional judgement – with general requirements

3 Employment and supervision of personnel

The inspection body needs to ensure that the personnel is supervised regularly, that it is competent and works in accordance with the inspection body's quality management system. Requirements for the supervising personnel and the content of surveillance visits are laid down in EA-IAF/ILAC-A4 pars. 6.4a – 6.4e).

If useful and practicable, during the period of validity of the accreditation each active inspector should be subject to a witness audit performed by the inspection body.

The fulfilment of the requirements for education and further training as well as for technical knowledge and experience for the field of inspection - laid down in the job descriptions - is to be assessed within the frame of DAP on-site assessments.

3.1 Technical manager

The requirement of DIN EN ISO/IEC 17020, par. 6.3 for a regular employment of the technical manager is handled in accreditation procedures for inspection bodies in such a way that an employment on a part-time basis may be accepted, if it is adequate to the fulfilment of the tasks EA-IAF/ILAC-A4 par.8.1a).

3.2 One-person-inspection body

DIN EN ISO/IEC 17020 with regard to the number of employees only states that they shall be available in a sufficient number (par. 8.1). On principle, it is proper to accredit inspection bodies without consideration of the number of its staff members.

Managerial and technical personnel for inspections may be identical; however, the functions and fields of responsibility shall be clearly regulated in written provisions.

Manager and quality manager of the inspection body may also be identical; however, the functions and fields of responsibility shall be clearly regulated in written provisions.

If inspection bodies are operated by one person, this person shall have adequate review competence for all activities performed in the inspection body (par. 8.2).

In this case, the inspection body merely has to involve external persons conducting internal audits according to par. 7.7 and to contractual regulations.

4 Assessment of review competence

Definition of review

DIN EN ISO/IEC 17000, par. 5.1

Review is the activity of checking the suitability, adequacy, and effectiveness of selection and determination activities and the results of these activities, with regard to fulfilment of specified requirements by an object of conformity assessment.

Review is the process that determines the outcome of the inspection.

A review shall always precede a testing. This can be a functional or analytical (chemical, physical etc.) testing of a product or a material, but also a review of documents, such as design drawings, calculations, drafts, or procedural characteristics.

The review also specifies the total volume (scope) of inspection activities, i.e. determines which tests need to be conducted and which results and provisions/instructions/regulations need to be used for the inspection.

The review shall include the adequacy and completeness of the tests conducted as to the purpose of the inspection.

Types of review

The review differentiates between two basically different approaches:

- The type of review **according to predetermined requirements** performing the conformity assessment on the basis of a comparison of the tested properties and characteristics with the requirements from standards or on characteristic values predetermined on a comparable basis.
- The **professional review** performing the conformity assessment on the basis of a comparison of the tested properties and characteristics with general requirements found on a basis of a professional judgement.

Review competence

Apart from the knowledge of the relevant testing activity, the review competence presupposes the knowledge of:

- the manufacture of the inspected product etc.
- the operational service of the inspected product etc.
- the planning of utilisation of the inspected products etc.
- the deficiencies at the product etc. caused during its utilisation
- the consequences of detected deficiencies for the use or operational service of products etc.
- the requirements from relevant jurisdiction (legal practice) for the products etc.
- the general requirements for the products etc. set out in relevant standards

Training requirements for the review

Adequate training and experience for the review activity shall include at least:

- Completed education in a discipline concerning inspection activities or similar skills/abilities.
- Usually 5 years of professional experience after education in a field of activity in which the review shall be performed.
- Basic knowledge of a technique how to review results of examinations, either through participation in relevant training courses, or through auditing and accompanied activity of experienced staff members of the inspection body.
- Traceable and documented assessment and judgement on the competence by an experienced staff member of the inspection body.
- The entire educational history shall be traceable and documented.

Internal surveillance of the review competence

The inspection body shall have a programme to enable the regular internal check of the inspectors (EA-IAF/ILAC-A4 pars. 6.4a – 6.4e). The programme should include on-site observations of all inspectors. Records are to be retained.

Assessment of the review competence (competence for performing reviews)

The assessment of the review competence can only be made by an assessor having sufficient knowledge and experience in the relevant field of inspection or in a similar field of inspection and still having actively exercised this activity three years ago at the latest.

The assessor shall have sufficient knowledge of and experience in the application of conformity assessment procedures.

If required, for the assessment of the professional type of review based on a professional judgement, review tasks to be fulfilled by the person under assessment may be distributed within the meaning of a "proficiency test".

The assessment result shall be documented considering the criteria mentioned above.

5 Subcontracting

According to par. 14 of DIN EN ISO/IEC 17020, subcontracting for an inspection body may be described in such a way that **subcontracts can generally** be commissioned **only in exceptional cases**. General terms are applied (appropriate competence of the subcontractor etc.).

If specific activities of a special kind are subcontracted, it shall be possible to consult a qualified and experienced person who assesses the results of the subcontracted tasks on his/her own. The responsibility for determining conformance with the requirements remains with the inspection body (DIN EN ISO/IEC 17020, par. 14.4).

6 Sample of a table of contents of a general inspection instruction including Annex

An inspection body to be accredited shall basically describe its inspection activity in a process instruction.

Title **Process instruction for the inspection activity of an inspection body of Type A, B, C on the basis of DIN EN ISO/IEC 17020**

Table of contents

1	Definitions
2	Content and objective of an inspection, scope
3	Organisation, personnel and operation
4	Inspection programme
4.1	Planning of inspection activities
4.2	Conducting of inspection
5	Testing activities
5.1	Inclusion of external services (subcontracting)
6	Facilities and equipment
7	Review of inspection results
8	Inspection report
9	Further applicable documents (specifications, standards, normative documents, etc.)

Annex Example: In-service inspection of installations/plants

Table of contents

1	Principles and scope
2	Special requirements for the in-service inspection of...
3	In-service inspection of...
3.1	Inspection programme
3.2	Analysis of company documents/records und laying down the in-service inspection programme
3.2.1	Stress analysis
3.2.2	Scope of testing
3.2.2.1	Non-destructive tests
3.2.2.2	Mechanico-technological tests
3.2.2.3	...
4	Inclusion of external services (subcontracting)
5	Review of inspection results
6	Inspection report
7	Further applicable documents (specifications, standards, normative documents, etc.)
	Annex

7 Testing, inspecting and certifying

Compared to a **certification process** usually composed of the following three steps

„Testing“, „Reviewing“ and „Decision on certification“

the **inspection process** is the combination of

„Inspecting“ and „Reviewing“ (see also par. 4).

The testing service may be served by the inspection body, or it is performed by one or more subcontractors (testing laboratories).

It shall particularly be considered that the inspection performance does not require a personnel separation, i.e. a separation between testing and reviewing. A personnel separation is only required within the frame of a certification activity. I.e., the decision on certification shall be made by all means by another person than the one or the group of persons involved in the testing and/or reviewing process.

However, this does not exclude that the inspection process may be integrated in the certification process. E.g. several testing service providers may identify most different characteristic values at different components of an installation, persons performing calculations may determine the static strength and subsequently the inspection body may approve the fulfilment of the requirements with the (predetermined) (customer) specifications, normative documents, etc. or on the basis of a professional judgement. This approval may serve for the certification body as a basis for establishing the decision on certification.

8 Laying down the scope based on objects, type and field of activity, procedures and sequences as well as on the review background

The scope shall always contain the following information (comp. EA-IAF/ILAC-A4, App. 2):

- Objects and fields of activity (field of Inspection, e. g.: processes, plants/installations, defined plant components, design, products etc.)
- Type and range of inspection, e.g.: inspection under application or operating conditions (in-service inspection), inspection of new products
- Definition of review type

9 Personnel involved in the accreditation process

9.1 General

9.1.1 The personnel involved in the accreditation process shall be competent for its respective tasks.

9.1.2 Information on relevant qualifications, further education und professional experience of each staff member involved in the accreditation process shall be maintained by DAP. The records on further education and professional experience shall be kept up-to-date.

9.2 Requirements for assessors

9.2.1 The assessor(s) for assessing an inspection body shall/may:

- a) be familiar with the relevant legal provisions, accreditation procedures and requirements;
- b) have specific knowledge of the relevant assessment procedures and documents;
- c) have adequate technical knowledge of specific areas und types of inspections, for which the accreditation is planned to be conducted and, where necessary, of the pertaining sampling procedures;
- d) be able to communicate in a clear and understandable way, both in writing and verbally;
- e) be free from any commercial, financial or any other pressure or conflict of interest that may adversely affect the impartial or non-discriminatory activity of the assessor(s);
- f) not have offered or performed any consultancy services to the inspection bodies that could adversely affect the impartiality in accreditation procedures and the decisions to be taken.

In addition, the requirements of DIN EN ISO/IEC 17011 are to be taken into consideration:

- g) have attended the training courses for assessors in accreditation related matters arranged by the accreditation bodies,
- h) have personal attributes, such as open mindedness, diplomacy, versatility, tenacity, decision-making ability, self assurance, as e.g. described in detail in DIN EN ISO 19011:2002.

9.3 Accreditation process – Selected aspects

9.3.1 Documents to be submitted by the applicant

The required documents given in the list (form NU-IS-00 at <http://www.dap.de/doce.html> are to be submitted by the applicant prior to the assessment und to be kept available by DAP.

9.3.2 Assessment process

The evaluation of the competence of an inspection body is determined by:

- Document review
- Note: Minimum content of the Quality Manual according to Annex D of DIN EN ISO/IEC 17020
- Assessment of the inspection body's office
- Note: The degree of independence (categorisation Type A, B, C) may be laid down by the inspection body itself, in the preliminary stages during the optional pre-assessment or the document review, or during the assessment.
- Assessment of sites/locations
- Witness audits of on-site inspections
- Note: The scope of an inspection body's assessment based on samples taken at random (comp. DIN EN ISO/IEC 17011, pars. 8.1.1 and 7.5.6 and example in Annex to EA 3/10) is laid down in a plan prior to an assessment. This plan ensures a representative coverage of the sites/locations and fields of inspection; it is to be updated at each assessment.

The checklist including annexes to be used for the assessment is available at <http://www.dap.de/doce.html> .

10 Further applicable documents:

1. DIN EN ISO/IEC 17020 (2004-11) General criteria for the operation of various types of bodies performing inspection
2. EA IAF/ILAC-A4:2004 Guidance on the Application of ISO/IEC 17020:1998
3. DIN EN ISO/IEC 17011 (2005-2) General requirements for accreditation bodies accrediting conformity assessment bodies