

STANDARD	INSPECTION SPECIFICATIONS	
ISO : – EN : 10204 DIN : 50049	Inspection documents	

1. Scope and field of application, normative information and main division.

1.1 The most important commercial fasteners like bolts, screws and nuts shall be marked by indenting or embossing with the designation symbol of the property class (see pages 15-5-1/6, clause 4) and/or the designation symbol of the material (see pages 15-40-3, clause 3, 15-45-2, clause 6 and 15-50-2, clause 7) and with the trade (identification) marking of the manufacturer. This cheap method of identification and the inspection specifications of DIN 267 Part 5 (see pages 15-30-1/5) usually guarantee a reliable level of quality regarding the requirements of the product specifications.

Critical applications and special fasteners, however sometimes require extra security and a document on material tests (certificate) is required as proof that the delivery is in conformity to the requirements.

1.2 The European standard EN 10204 summarizes and describes various kinds of documents, which can be required in the order of metallic products. Because the German standard DIN 50049 is well-known and is cited in many prescriptions, the contents of EN 10204 has been published as a revised edition of DIN 50049, which shall be withdrawn and replaced by DIN EN 10204 after an indefinite period of transition. On the basis of an agreement the future international standard ISO 10474 will be made identical to EN 10204.

1.3 All types of inspection documents can be arranged in two main groups:

1.3.1 Based on non-specific inspection and testing.

Inspection and testing carried out by the manufacturer in accordance with his own procedures to assess whether products made by the same manufacturing process meet the requirements of the order. The products inspected and tested may not necessarily be the products actually supplied.

1.3.2 Based on specific inspection and testing.

Inspection and testing carried out, before delivery, according to the technical requirements of the order, on the products to be supplied or on test units of which the product supplied is part, in order to verify whether these products comply with the requirements of the order.

2. Inspection documents drawn up from inspection and tests carried out by personnel authorized by the manufacturer and who may be involved in the manufacturing department.

2.1 Certificate of compliance with the order "2.1"

Document in which the manufacturer certifies that the products supplied are in compliance with the requirements of the order, without mention of any test results. The certificate of compliance with the order "2.1" is a document drawn up on the basis of non-specific inspection and testing.

2.2 Test report "2.2"

Document in which the manufacturer certifies that the products supplied are in compliance with the requirements of the order and in which he supplies test results based on non-specific inspection and testing.

2.3 Specific test report "2.3"

Document in which the manufacturer certifies that the products supplied are in compliance with the specifications of the order and in which he supplies test results based on specific inspection and testing. The specific test report "2.3" is only used by a manufacturer who does not have an authorized quality control department operating independently of the manufacturing department. If the manufacturer uses an authorized quality control department, operating independently of the manufacturing department he shall supply a "3.1.B" certificate instead of a "2.3" certificate.

3. Inspection documents drawn up for inspection and tests carried out or supervised by authorized personnel independent of the manufacturing department, and based on specific testing.

3.1 Inspection certificate.

Documents issued on the basis of inspection and tests carried out in accordance with the technical specifications of the order or the official regulations and the corresponding technical rules. The tests shall be carried out on the products supplied or the products in the inspection unit, of which the consignment constitutes a part. The inspection unit is set by the product standard, the official regulations and corresponding technical rules or by the order. There are different types:

Inspection certificate "3.1.A"

Is issued and validated by an inspector designated by the official regulations, in accordance with these and the corresponding technical rules.

Inspection certificate "3.1.B"

Is issued by the department independent of the manufacturing department and validated by an authorized representative of the staff independent of the manufacturing department.

Inspection certificate "3.1.C"

Is issued and validated by an authorized representative of the purchaser, in accordance with the specifications of the order.

3.2 Inspection report.

Where the inspection certificate is validated, following special agreement, both by the manufacturer's authorized representative and the purchaser's authorized representative, it is known as the inspection report "3.2".

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4. Inspection documents to be supplied by a processor or an intermediary.

When a product is supplied by a processor or an intermediary, they shall submit to the purchaser, without any changes to it, the manufacturer's documentation, as described in this European Standard EN 10204. This documentation from the manufacturer shall be accompanied by suitable means of identification of the product, in order to ensure the traceability between the product and the documentation. If the processor or intermediary has changed the state or dimensions of the product in any way whatever, he shall supply an additional document of compliance for these particular new conditions. This also applies to all special requirements given in the order and not defined in the manufacturer's documentation.

5. Validation of inspection documents.

The inspection documents shall be signed or marked in an appropriate way by the person(s) responsible for the validation of documents. However, if the certificates are prepared by a suitable data processing system the signature may be replaced by an indication of the name and the position of the person responsible for validating the document.

6. Different language versions of inspection documents (informative).

Kind of document	English	German	French	Italian*	Dutch*
2.1	Certificate of compliance with the order	Werksbescheinigung	Attestation de conformité à la commande	Attestato di conformità all'ordinazione	Fabrieksverklaring
2.2	Test report	Werkszeugnis	Relevé de contrôle	Attestato di controllo	Fabriekscontrôlerapport
2.3	Specific test report	Werksprüfzeugnis	Relevé de contrôle spécifique	Unknown	Fabrieksbeproevingsrapport
3.1.A 3.1.B 3.1.C	Inspection certificate	Abnahmeprüfzeugnis	Certificat de réception	Certificato di collaudo	Afnamebeproevingsrapport
3.2	Inspection report	Abnahmeprüfprotokoll	Procès-verbal de réception	Verbale di collaudo	Afnamebeproevingsprotokol

* added to EN 10204.

STANDARD	<h1 style="margin: 0;">INSPECTION SPECIFICATIONS</h1> <h2 style="margin: 0;">3.1B-certificate</h2>	
ISO : - EN : - DIN : -		

The 3.1B-certificate is the most common document for fasteners and is mainly required in the petrochemical and tank industry for pipelines, tank installations, pressure vessels, steam equipment and the like. Although the 3.1A and 3.1C certificates generally cause no difficulties - the official authority or the customer himself indicates how and by which experts testing has to be carried out - the 3.1B certificate may quite often be misinterpreted.

1. The configuration of the 3.1B certificate

Supplement 1 to DIN 50049 gives a suggestion of how to achieve optimal uniformity in the documents. It contains all the necessary data and is generally accepted.

2. Manufacturers, authorized to issue a 3.1B certificate

Especially in this matter there is some lack of clarity. The definition of the 3.1B-certificate (see page 15-31-1, point 3) assumes a high degree of organization and quality in the manufacturing company. Guarantee about this can only be obtained on the basis of an official and independent homologation of the manufacturer, which is generally accepted.

This situation exists in Germany. Most applications of fasteners requiring a 3.1B-certificate fall under the supervision of the German Technische Überwachungsverein (TÜV) and the rules are laid down in the AD-Merkblätter for pressure vessels and the TRD-rules for steam equipment. Furthermore the TÜV is generally accepted as an official and independent authority to audit manufacturers on their level of quality, to issue a homologation (Zulassung) and to check the company periodically (Überwachungsvertrag).

The TÜV yearly publishes a survey (VdTÜV Merkblatt 1253) of all manufacturing companies over the whole world - including manufacturers of fasteners - that have obtained their homologation.

With 3.1B-certificates of these approved manufacturers no danger occurs that the company and/or the document will not be accepted.

3. Relation between certificate and product

A certificate can only be reliable when it is clearly and unambiguously established that the document and the product concerned belong together. This is not usually the case for smaller, mass-produced articles like bolts and nuts, as yet.

Nevertheless, some recommendable developments are starting to take place:

- some manufacturers also indicate the cast number of the certificate on the label of the packing
- some companies have already made a further move in the ideal direction of marking every product with a symbol corresponding with the symbol of the certificate.

Fabory "a guarantee for quality"

Our products are subjected to a constant quality control. The articles are tested in our modern laboratory.



Profile projector



Tensile testing machine (600kN)

STANDARD
 ISO : -
 EN : -
 DIN : 50049 Sub part 1
 (1980)

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Example of the configuration of a 3.1B-certificate

Abnahmeprüfzeugnis B / Inspection certificate B
 DIN 50 049 - 3.1 B

(Firmenkopf) _____
 Nr. / No. _____ Datum / Date _____
 230 Ma 12.09.1979

(Empfänger)

zu Lieferanzeige / to Delivery Note:

Nr. / No.: 006480
 vom / of: 10.09.1979

Zeichen des Herstellerwerkes / Mark of the Manufacturer:

Zeichen des Sachverständigen / Inspector's Stamp:

Besteller / Purchaser: **Stahlhändler** Bestellung Nr. / Order No.: **4557/401/250** Datum / Date: **08.08.1979**

Unsere Auftrags-Nr. / Our Order-No.: **gb 60 371** Unsere Abteilung / Our Department: **QZP/A** Hausruf / Tel. Ext.: **2890**

Erzeugnisform / Product: **Blech** Lieferbedingungen / Terms of Delivery: **DIN 1543**

Werkstoff / Lieferzustand / Quality / Condition of Delivery: **H II normalgeglüht** Lieferbedingungen und/oder amtliche Vorschriften / Terms of Delivery and/or Official Regulations: **DIN 17155 Teil 1**

Pos. / Item	Anzahl / Quantity	Abmessungen / Dimensions mm	Masse / Weight kg	Schmelzen-Nr. / Cast-No. Los-Nr. / Lot-No.	Erschm. Art / Melting-furnace	Chemische Zusammensetzung (Schmelzenanalyse) / Chem. Composition of Cast						
						% C	% Si	% Mn	% P	% S	%	%
4	14	12.0x1200x2000	3160	66355	Y	0,14	0,25	0,68	0,014	0,020	-	-
6	8	15.0x1250x2500	2940	65576	Y	0,13	0,22	0,70	0,018	0,023	-	-

Pos. / Item	Schmelzen-Nr. / Cast-No.	Probe-Nr. / Test No.	Probenlage / Pos. of sample ¹⁾	Streckgrenze / Yield stress N/mm ²	Zugfestigkeit / Tensile strength N/mm ²	Bruchdehnung / Elongation % A ₅	Kerbschlagarbeit / Impact Value (DVM) Probe / Type					Bemerkungen / Remarks
							Joule					
							Probenlage / Pos. of sample ¹⁾	1.	2.	3.	Mittel / Average bei / at °C	
4	66355	943	Kq	293	437	38	Kq	52	55	53	53	+20
			Fq	312	417	39	Fq	51	54	52	52	"
	"	948	Kq	298	433	37	Kq	49	51	50	50	"
			Fq	295	435	38	Fq	55	54	52	54	"
6	65576	878	Kq	310	447	35	Kq	48	52	50	50	"
			Fq	304	454	31	Fq	53	50	50	51	"
	"	911	Kq	339	464	39	Kq	48	51	51	50	"
			Fq	327	461	38	Fq	54	52	53	53	"

Faltversuch / Bending Test: quer D = 2a < 180°

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht.

We hereby certify, that the material described above has been tested and complies with the terms of the order contract.

(Firma)

¹⁾ A = Anfang / Beginning, E = Ende / End, F = Fuß / Bottom, K = Kopf / Top, l = längs / longitudinal, q = quer / transverse, t = tangential, r = radial, z = senkrecht / vertical

Der Werksachverständige / Works inspector