

SVENSK STANDARD

SS-EN 764-5:2014



Fastställt/Approved: 2014-12-21
Publicerad/Published: 2014-12-22
Utgåva/Edition: 2
Språk/Language: engelska/English
ICS: 23.020.30

Tryckbärande anordningar –

Del 5: Dokument för överensstämmelse och kontroll av material

Pressure equipment –

Part 5: Inspection documentation of metallic materials and compliance with the material specification

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-104922>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

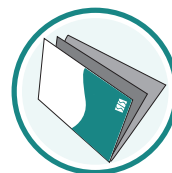
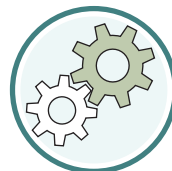
Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

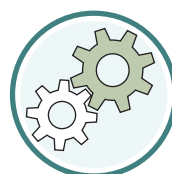
Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN 764-5:2014 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 764-5:2014.

Denna standard ersätter SS-EN 764-5, utgåva 1.

The European Standard EN 764-5:2014 has the status of a Swedish Standard. This document contains the official version of EN 764-5:2014.

This standard supersedes the Swedish Standard SS-EN 764-5, edition 1.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Uppllysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Tryckkärlsstål, SIS/TK 137.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN 764-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2014

ICS 23.020.30

Supersedes EN 764-5:2002

English Version

Pressure equipment - Part 5: Inspection documentation of metallic materials and compliance with the material specification

Equipements sous pression - Partie 5 : Documents de contrôle de matériaux métalliques et conformité avec la spécification de matériau

Druckgeräte - Teil 5: Prüfbescheinigungen für metallische Werkstoffe und Übereinstimmung mit der Werkstoffspezifikation

This European Standard was approved by CEN on 8 November 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Requirements with respect to classification into pressure equipment categories	4
3.1 General.....	4
3.2 Material for main pressure-bearing parts of pressure equipment in category II, III and IV	5
3.3 Material for main pressure-bearing parts of pressure equipment in category I	5
3.4 Material for pressure-bearing parts not covered by 3.2 or 3.3 and for attachments to pressure equipment in category II, III and IV.....	5
3.5 Other material.....	5
3.6 Welding consumables	5
3.7 Use of higher document levels.....	5
4 Material manufacturers Quality management system route	5
4.1 General.....	5
4.2 Quality management system	5
4.3 Material testing and inspection documents.....	7
5 Direct inspection route.....	7
5.1 First production	7
5.2 Inspectors	7
5.3 Material verification testing and inspection documents	8
6 Material from stockists.....	8
6.1 Inspection documents and marking	8
6.2 Cut off material pieces	8
7 Specific requirements for components	9
7.1 General.....	9
7.2 Welding procedures and welder qualifications	9
7.3 Non-destructive testing of permanent joints	9
Annex A (normative) First testing of the production of a material covered by harmonized standard or EAM	10
A.1 General.....	10
A.2 Responsibilities	10
A.3 Procedure for the first testing of established materials not previously produced.....	10
A.4 Statistical methods	10
Annex B (informative) History of EN 764-5	11
B.1 Changes from EN 764-5:2002 to EN 764-5:2014	11
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives	12
Bibliography	13

Foreword

This document (EN 764-5:2014) has been prepared by Technical Committee CEN/TC 54 “Unfired pressure vessels”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2015 and conflicting national standards shall be withdrawn at the latest by June 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 764-5:2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For relationship with EU Directive 97/23/EC (PED), see informative Annex ZA, which is an integral part of this document.

Regarding the most significant technical changes that have been implemented in this new edition of EN 764-5, see Annex B.

This European Standard, *Pressure equipment*, consists of the following parts:

- *Part 1: Terminology - Pressure, temperature, volume, nominal size;*
- *Part 2: Quantities, symbols and units;*
- *Part 3: Definition of parties involved;*
- *Part 4: Establishment of technical delivery conditions for metallic materials;*
- *Part 5: Inspection documentation of metallic materials and compliance with the material specification (the present document);*
- *Part 6: Structure and content of operating instructions [Technical Report CEN/TR 764-6];*
- *Part 7: Safety systems for unfired pressure equipment;*
- *Part 8: Proof test [Technical Specification prCEN/TS 764-8, currently under development].*

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the provisions for inspection documentation of metallic materials, intended to be used under the regime of the PED, to comply with the Essential Safety Requirements 4.2 (b) and 4.3 of Annex I and to comply with the required material specification.

A simplified diagram of the routes for inspection documentation including compliance with the material specification is shown in Figure 1.

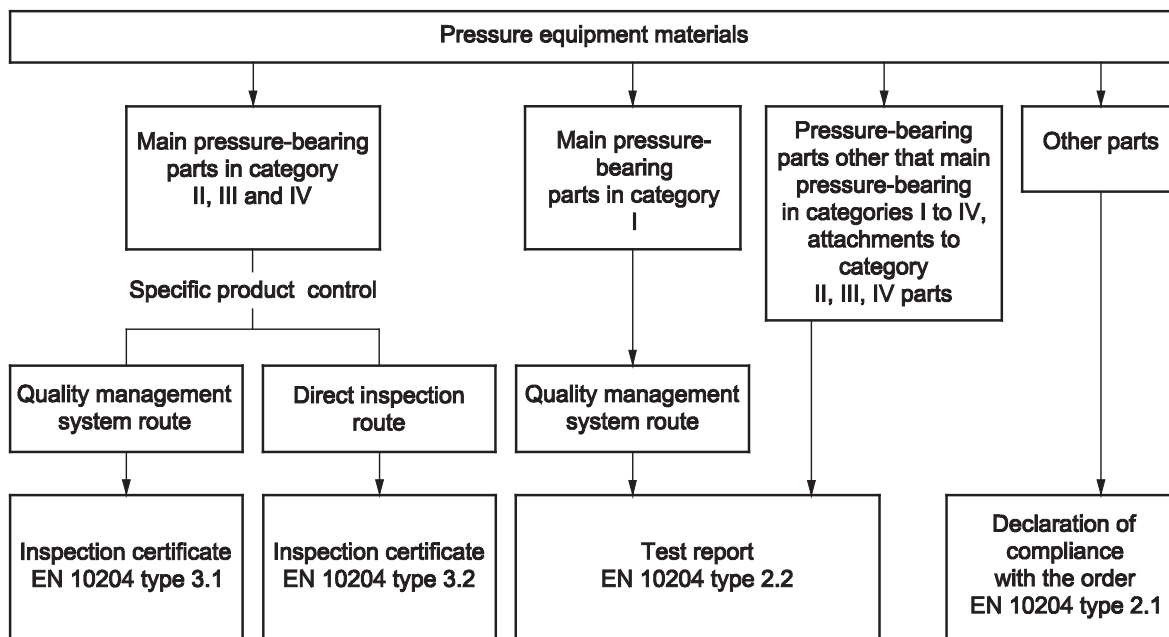


Figure 1 — Types of inspection documents required (minimum requirement)

2 Normative references

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

EN 764-4:2014, *Pressure equipment — Part 4: Establishment of technical delivery conditions for metallic materials*

EN 10204, *Metallic products — Types of inspection documents*

3 Requirements with respect to classification into pressure equipment categories

3.1 General

For material intended for use as pressure-bearing parts of pressure equipment of all categories and for attachments (e.g. support feet, lifting lugs, baffles, pipe supports, stiffening rings) welded directly to pressure-bearing parts of pressure equipment of all categories, the pressure equipment manufacturer shall ensure compliance of these materials by obtaining from the material manufacturer a declaration of compliance, which is traceable to the material, as specified in 3.2 to 3.5.

The issuing of any one of the inspection documents referred to in 3.2 to 3.5 is a declaration from the material manufacturer that the delivered products are in compliance with the requirements of the specification and the order (see EN 10204).

3.2 Material for main pressure-bearing parts of pressure equipment in category II, III and IV

For material intended for use as main pressure bearing parts of pressure equipment classified in categories II, III and IV, a specific inspection and testing route according to Clause 4 or Clause 5 shall be followed. This shall be either:

- by a material manufacturers Quality management system route (production under Quality management system coverage) according to Clause 4; or
- by direct inspection route (production without Quality management system coverage) according to Clause 5.

3.3 Material for main pressure-bearing parts of pressure equipment in category I

For material intended for use as main pressure-bearing parts of pressure equipment classified in category I, at least a test report, EN 10204 — “type 2.2”, shall be obtained from the material manufacturer.

3.4 Material for pressure-bearing parts not covered by 3.2 or 3.3 and for attachments to pressure equipment in category II, III and IV

Pressure-bearing parts other than main pressure-bearing parts in categories I to IV and for attachments welded directly to pressure-bearing parts of pressure equipment classified in categories II, III and IV at least a test report, EN 10204 — “type 2.2” shall be obtained from the material manufacturer.

3.5 Other material

For materials for other parts not covered by 3.2 to 3.4 at least a declaration of compliance with the order, EN 10204 — “type 2.1” shall be obtained from the material manufacturer.

3.6 Welding consumables

For welding consumables for all categories of pressure equipment at least a test report EN 10204 — “type 2.2” shall be obtained from the welding consumable manufacturer.

3.7 Use of higher document levels

An inspection document of a higher level is always acceptable.

4 Material manufacturers Quality management system route

4.1 General

The pressure equipment manufacturer shall ensure himself that the material manufacturer has a certified Quality management system for manufacture, inspection and testing in accordance with 4.2 and obtain inspection documents in accordance with 4.3.3.

4.2 Quality management system

4.2.1 Assessment of the Quality management system

The material manufacturer shall have undergone a material related assessment of his Quality management system by a competent body of his choice. The competent body shall be established as a legal entity within the European Union (see also the PED Guideline 7/2) and which has been subject to appropriate accreditation. The accreditation body shall be authorized to grant accreditation by a EU Member State.

The Quality management system and its assessment shall fulfil the following requirements:

SS-EN 764-5:2014 (E)

- a) The competent body shall, when assessing the Quality management system, evaluate the capability of the material manufacturer to produce materials covered by the Quality management system certificate. This implies that for each production site, production process, grade, dimensional range, heat treatment condition etc., it shall be verified by production-data that the manufacturer, with statistical confidence, meets the minimum requirements of the specifications covered by the scope of the Quality management system certificate;
- b) At least one member of the auditing team of the competent body responsible for assessment who has experience of assessing the material manufacturing and the material groups concerned shall take part in the certification procedure;
- c) The assessment procedure shall include a visit to the material manufacturers premises;
- d) The assessment shall include a review of:
 - 1) the type of manufacturing processes applied for the manufacture of the products covered by the scope of the intended certification;
 - 2) the type of equipment utilized;
 - 3) the essential parameters to be controlled during production in order to consistently achieve the required quality;
 - 4) the function of the persons responsible for the Quality management system, the manufacture and the inspection and testing;
- e) The competent body shall evaluate by interviews or by the examination of documents:
 - 1) that the manufacturing equipment and the equipment controlling the essential parameters are available. They shall be capable of permitting the consistent delivery of products in the required quality;
 - 2) that competent personnel are available for operating and maintaining the equipment and supervising the manufacturing and inspection and testing activities;
- f) Where valid results of preceding reviews of the Quality management system are available, these reviews shall not be repeated.

4.2.2 Content of the Certificate

Following positive assessment the competent body shall issue a document stating the scope of approval relating to material for pressure purposes including:

- product form;
- their dimensional range;
- their relevant production processes;
- date of issue and validity.

4.2.3 Reassessment and periodic audits

The competent body shall carry out periodic audits to make sure that the material manufacturer maintains and applies the Quality management system. The frequency of periodic audits shall be such that a full reassessment is carried out every three years, with at least one visit per year.

4.2.4 Assessment reports

The result of the assessment and periodic audits of the Quality management system shall be summarized in an assessment report, which shall be retained by the material manufacturer for a period of 10 years.

4.3 Material testing and inspection documents

4.3.1 First production of a material covered by harmonized standard or EAM

Where a material manufacturer starts the first production of a material covered by harmonized standard or EAM Annex A shall be applied.

Where a material manufacturer starts production of another material, EN 764-4 shall be applied.

4.3.2 Ordering of material

When ordering the material, the pressure equipment manufacturer shall specify:

- a) the technical delivery conditions; and
- b) any additional requirements, where applicable;
- c) an inspection document in accordance with 4.3.3.

4.3.3 Inspection documents

The material manufacturer shall issue inspection documents to EN 10204, "type 3.1" traceable to the product, to ensure compliance with the applicable material specification and order requirements.

5 Direct inspection route

5.1 First production

Where a material manufacturer starts production of a material covered by harmonized standard or EAM, Annex A shall be applied. Where a material manufacturer starts production of other material EN 764-4 shall be applied.

5.2 Inspectors

If the pressure equipment manufacturer chooses not to carry out direct inspections himself he shall appoint:

- a body which has been subject to appropriate accreditation. The accreditation body shall be authorized to grant accreditation by a EU Member State; or
- a notified body as required by Article 12 of the PED; or
- a user inspectorate, where applicable.

NOTE A list of notified bodies (NANDO-List) can be found on the internet [3].