

ICS 19.100
CCS J04



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 12605-2008

Replacing GB/T 12605-1990

**Non-destructive testing Test methods for radiographic testing
of circumferential fusion-welded butt joints in metallic pipes
and tubes**

无损检测 金属管道熔化焊环向对接接头射线照相检测方法

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Foreword

This standard replaces GB/T 12605-1990 "steel pipe girth fusion welded butt joints of radiographic inspection and quality classification." This standard and GB/T 12605-1990 compared to the main changes are as follows:

- Technical level of radiographic indicators were delineated, increase the selection of radiography grade requirements under different circumstances;
- Increased industrial radiographic film classification system content, the film is divided into T1, T2, T3, T4 four categories;
- Increased provisions 75Se-ray source applications;
- Increase the range of suitable materials, steel pipe girth metal pipes to the hoop;
- Steel, copper and copper alloys, aluminum and aluminum alloys, titanium and titanium alloys of different thicknesses highest tube voltage diagram has been modified;
- Increased nickel and nickel alloys, copper and copper alloy pressure equipment butt joints ray detection quality grading content;
- Appendix B monofilament IQI IQI added to the requirements of different materials;
- Added Appendix D pipeline circumferential butt joints transillumination method for determining the number of times;
- Increased transillumination first approximation calculation method of the imaging range detection Appendix E trails tube oval. The Standard Appendix B, Appendix C are normative appendices, Appendix A, Appendix D, Appendix E is an information appendix. The standard proposed by China Machinery Industry Federation. The standard non-destructive testing by the National Standardization Technical Committee (SAC/TC56) centralized. This standard was drafted. State Grid Electric Power Research Institute, Beijing Building, Tianjin Electric Power Construction Company, Zhejiang Thermal Power Construction Company, Yunnan Electric Power Test Institute test (Group) Co., Ltd. Electric Power Research Institute, Shandong Electric Power Research Institute, Haimen Lianying Chang testing equipment. The main drafters of this standard. EVAL celebrate, solemn, Zhang Xuefeng, Wu Qin

Zhang, Xiao Shirong, Zheng Shi Cai, Wu Yingli, He Zhengbing. This standard replaces the standards previously issued as follows:

--- GB/T 12605-1990. Non-destructive testing of metal pipes to melt solder ring Butt joints radiographic detection method

1 Scope

GB/T 12605-2008 is the Chinese national standard on non-destructive testing test methods for radiographic testing of circumferential fusion-welded butt joints in metallic pipes and tubes, in the field of testing. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 13 May 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 November 2008. Classification: ICS 19.100, CCS J04. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the molten metal pipes welded circumferential butt joints radiographic testing methods and quality assessment classification. This standard applies to wall thickness (2 ~ 175) Ring mm metal tubes and pipes to the butt joint. Welded pipe fittings (tees, bends Head), pipe (longitudinal seam spiral seam) can also refer to the use of welded joints. This standard does not apply to friction welding, flash welding and other mechanical methods welding of butt joints.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 9445 NDT personnel qualification and certification (GB/T 9445-2008, ISO 9712:2005, IDT)

GB 11533-1989 standard vision chart

GB/T 12604.2 Terminology for nondestructive testing radiographic testing (GB/T 12604.2-2005, ISO 5576:1997, IDT)

GB 18871-2002 ionizing radiation protection and safety of radiation sources basic

standards (neq IAEA Safety Series)

GB/T 19348.1-2003 destructive testing - Industrial radiographic film - Part 1. Classification of film systems for industrial radiography (

ISO 11699-1.1998, IDT) GB Z98-2002 Radiation Workers' Health Standards GB Z117-2002 industrial X-ray inspection health protection standards GB Z132-2002 industrial gamma-ray detection protection standards

JB/T 7902-2006 NDT radiographic testing linear IQI

3 Terms and Definitions

GB/T 12604.2 and established the following terms and definitions apply to this standard.

3.1 Public means nominal wall thickness of the base material. Without considering manufacturing variations.

3.2 The nominal thickness calculated based on the thickness of the radiation (transillumination) direction of the material.

3.3 Ray radiation source on the direction of the workpiece from the side of the subject to the film surface.