JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS Z 4716 : 2018

(JIRA/JSA)

Measurement methods of leakage X-ray from X-ray examination rooms

ICS 11.040.50

Reference number : JIS Z 4716 : 2018 (E)

PROTECTED BY COPYRIGHT

Date of Establishment: 2018-03-20
Date of Public Notice in Official Gazette: 2018-03-20
Investigated by: Japanese Industrial Standards Committee
Standards Board for ISO area
Technical Committee on Medical Equipment

JIS Z 4716:2018, First English edition published in 2019-02

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2019
All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

KK/AT

PROTECTED BY COPYRIGHT

Contents

Page

Introduction 1

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Radiation meter 2

5 Phantom 2

6 Measuring points of leakage X-ray 2

7 Measurement methods of leakage X-ray 3
7.1 General 3
7.2 Measurement method using survey meter 3
7.3 Measurement method using integrating dosemeter 4

8 Record of measurement result of leakage X-ray 5
8.1 Record of measurement result using survey meter 5
8.2 Record of measurement result using integrating dosemeter 5

Annex A (informative) Examples of measuring points of leakage X-ray in X-ray examination room, etc. 7

Bibliography 11

Index for terms 12

PROTECTED BY COPYRIGHT

Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Medical Imaging and Radiological Systems Industries Association (JIRA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

PROTECTED BY COPYRIGHT

Measurement methods of leakage X-ray from X-ray examination rooms

Introduction

This Japanese Industrial Standard was established based on the idea that an accurate measurement of the leakage X-ray from an X-ray examination room, etc. contributes an important role for the guarantee of safety to the general public, medical personnel, etc., with regard to the medical practices.

In the main body of this Standard, the terms in boldface are those defined in this Standard, **JIS Z 4001**, **JIS Z 4005**, **JIS Z 4345** and **JIS Z 8103**.

1 Scope

This Standard specifies the measurement methods of leakage X-ray mainly from an X-ray examination room in which a diagnostic **X-ray equipment** (hereafter referred to as **X-ray equipment**) is installed. This Standard is also applicable to the case where the leakage X-ray from a simulator room aimed at the radiation treatment plan and an operation room, in which an **X-ray equipment** is installed, is measured.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS Z 4001 *Glossary of terms used in nuclear energy*

JIS Z 4005 *Medical electrical equipment—Glossary of defined terms*

JIS Z 4333 *Portable ambient and/or directional dose equivalent (rate) meters and/or monitors for X, gamma and beta radiation*

JIS Z 4345 *Passive integrating dosimetry systems for personal and environmental monitoring of photon and beta radiation*

JIS Z 4511 *Methods of calibration for exposure meters, air kerma meters, air absorbed dose meters and dose-equivalent meters*

JIS Z 4915 *X-ray water phantom for chest and abdomen*

JIS Z 8103 *Glossary of terms used in measurement*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS Z 4001**, **JIS Z 4005**, **JIS Z 4345** and **JIS Z 8103**, and the following apply.

3.1

door meeting

portion at which both doors of double-swinging door are met

PROTECTED BY COPYRIGHT