JIS

JAPANESE INDUSTRIAL STANDARD

Translated and Published by
Japanese Standards Association

JIS Z 8723 : 2000

Methods for visual comparison of surface colours

ICS 17.180.20

Descriptors : surfaces, surface properties, surfacing (exterior spaces), surface treatment, visual perception, comparative tests, paired comparison tests, colour, dyeing printing

Reference number : **JIS Z 8723 : 2000 (E)**

This is a preview. Click here to purchase the full publication.

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS Z 8723** : 1988 is replaced with **JIS Z 8723** : 2000.

Date of Establishment: 1961-12-01

Date of Revision: 2000-05-20

Date of Public Notice in Official Gazette: 2000-05-22

Investigated by: Japanese Industrial Standards Committee
Divisional Council on Basic Items

JIS Z 8723:2000, First English edition published in 2003-07

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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

© JSA 2003
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

This is a preview. Click here to purchase the full publication.

Methods for visual comparison of surface colours

Introduction This Japanese Industrial Standard has been prepared based on **ISO/DIS 3668** *Paints and varnishes—Visual comparison of the colour of paints* issued in 1996 without changing technical contents, and items which are not specified in the corresponding International Standard (performance items or the like of artificial daylight D_{50}) are added as Japanese Industrial Standard.

Further, portions with sidelines or underlined with dots in this Standard indicate the matters not included in the original International Standard.

1 Scope

1.1 This Standard specifies a method for comparing the surface colours of bodies of a coating body, a staining body, printed matter or the like by visual sensation. However, a case where colours of near perfect specular surface(1) are compared is excluded.

Note (1) The surface is a surface on which an image is vividly reflected such as a smooth metallic surface, a plating surface or the like.

Remarks : When an individual Standard exists, the individual Standard is prior.

1.2 This Standard specifies a method for the visual comparison of the colour of films of paints or related products against a standard (either a reference standard or a freshly prepared standard) using either natural daylight or artificial light sources in a standard booth.

For standardized colour comparison, it is necessary to have an observer with normal colour vision, and reproducible illumination and viewing conditions. Most paints are required to match a standard in daylight, but the spectral composition of daylight varies considerably. Hence it is preferred to use artificial daylight for colour evaluation, as individual sources are more stable over a limited period than daylight and therefore enable more reproducible colour comparisons to be made.

1.3 Unless otherwise agreed, this method of test makes use of natural daylight or of two artificial light sources. Average daylight—natural or artificial—is used for routine comparisons. Artificial average daylight illumination is represented by CIE standard eliminant D_{65}. Further, if necessary, light D_{50} of CIE auxiliary standard may be used as agreed between the interested parties.

Incandescent illumination is additionally used to check for metamerism. Incandescent illumination is represented by CIE standard eliminant A. In cases of dispute, the referee comparison shall always be made under artificial light.

1.4 The visual assessment of colour differences using the components hue, chroma and lightness should preferably be performed in accordance with the rating scheme given in Annex B, or the visual assessment of colour differences may be carried out in comparison with gray scale conforming to **JIS L 0804**. In the case of the latter, basic assumption that the total colour difference can be evaluated by a lightness difference corresponding thereto.

This is a preview. Click here to purchase the full publication.

Remarks : The corresponding International Standard of this Standard is given as follows.

ISO/DIS 3668 : 1996 *Paints and varnishes—Visual comparison of the colour of paints*

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

JIS L 0804 *Gray scale for assessing change in colour*

JIS Z 8105 *Glossary of colour terms*

JIS Z 8113 *Lighting vocabulary*

JIS Z 8719 *Metamerism index—Evaluation method of degree of metamerism for change in illuminant*

JIS Z 8720 *Standard illuminants and sources for colorimetry*

JIS Z 8726 *Method of specifying colour rendering properties of light sources*

JIS Z 8729 *Colour specification—CIE LAB and CIE LUV colour spaces*

JIS Z 9112 *Classification of fluorescent lamps by chromaticity and colour rendering property*

3 Definitions For the main terms used in this Standard, the definitions in **JIS Z 8105** and **JIS Z 8113** apply, and the rest of the terms shall be as follows.

a) **uniformity ratio of illuminating** The ratio $\frac{E_{min}}{E_{max}}$ of the minimum illumination E_{min} and the maximum illumination E_{max} in the effective area of illumination.

b) **background** The field of vision around the surface of specimen and that of standard.

c) **work plane** The surface on which the specimen surface and the standard surface are put for visual comparison of their surface colours, which is finished to be uniformly chromatic and which is the extent to be also used effectively as the background.

d) **mask** A piece of chromatic colour paper or the like with the opening which is to be placed on the specimen surface and the standard surface in order to define the size and shape of their coloured surfaces.

e) **colour-matching booth** A booth capable of illuminating a work plane with light having a specified spectral distribution by intercepting outdoor daylight.

f) **colour vision inspection table** Inspection tools for inspecting abnormality of colour vision, and pseudocoels chromatic plates or the like are so called.

This is a preview. Click here to purchase the full publication.