

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS Z 9117 : 2011

(JSAA/JSA)

Retroreflective materials

ICS 13.100

Reference number : **JIS Z 9117 : 2011 (E)**

Z 9117 : 2011

Date of Establishment: 1975-11-01

Date of Revision: 2011-06-20

Date of Public Notice in Official Gazette: 2011-06-20

Investigated by: Japanese Industrial Standards Committee
Standards Board

Technical Committee on Basic Engineering

JIS Z 9117:2011, First English edition published in 2012-09

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 2012

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

NH/AT

PROTECTED BY COPYRIGHT

Contents

	Page
Introduction.....	1
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	2
4 Types.....	3
5 Performance.....	3
5.1 Colour.....	3
5.2 Retroreflective properties.....	4
5.3 Gloss.....	6
5.4 Durability.....	6
5.5 Liner removability.....	6
5.6 Adhesion.....	6
5.7 Shrinkage.....	6
5.8 Flexibility.....	6
5.9 Solvent resistance.....	6
6 Construction.....	7
7 Materials.....	7
8 Testing methods.....	8
8.1 Test conditions.....	8
8.2 Measurement of colour.....	9
8.3 Measurement of retroreflective properties.....	9
8.4 Measurement of gloss.....	10
8.5 Durability test.....	10
8.6 Liner removability test for protective paper or film liner.....	12
8.7 Adhesion test.....	12
8.8 Shrinkage test.....	13
8.9 Flexibility test.....	14
8.10 Solvent resistance test.....	14
9 Inspection.....	14
10 Marking.....	14
Annex A (informative) Ranges of chromaticity coordinates.....	16
Annex B (informative) Soft prism type retroreflective properties.....	17

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Safety Appliances Association (JSAA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS Z 9117:1984** is replaced with this Standard.

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

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

Retroreflective materials

Introduction

This Japanese Industrial Standard was established in 1975 and has gone through 2 revisions to this day. The last revision was made in 1984, and the revision at this time is to correspond to the present technology accompanying the subsequent technical development. The corresponding International Standard has not yet been published at this moment.

1 Scope

This Standard specifies retroreflective materials. It mainly applies to the following retroreflective materials.

- a) Road signs and other road accessories, cars, lower parts of poles, railroad crossing barriers for securing safety and smoothness of traffic in roads, railroads, tunnels, and the like.
- b) Safety equipment, reflective safety signs specified in **JIS Z 9107**, mine safety signs specified in **JIS M 7001** and safety helmets for hazard prevention at night or in dark places in factories, mines, construction working area, and other working areas.

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) listed below shall be applied.

JIS H 4000 *Aluminium and aluminium alloy sheets, strips and plates*

JIS K 2203 *Kerosine*

JIS K 2435-2 *Benzene·Toluene·Xylene—Part 2: Toluene*

JIS K 2435-3 *Benzene·Toluene·Xylene—Part 3: Xylene*

JIS K 7100 *Plastics—Standard atmospheres for conditioning and testing*

JIS K 7350-2 *Plastics—Methods of exposure to laboratory light sources—Part 2: Xenon-arc lamps*

JIS K 7350-4 *Plastics—Methods of exposure to laboratory light sources—Part 4: Open-flame carbon-arc lamps*

JIS K 8891 *Methanol (Reagent)*

JIS M 7001 *Signs of mine safety*

JIS R 6253 *Waterproof abrasive papers*

JIS Z 0237 *Testing methods of pressure-sensitive adhesive tapes and sheets*

JIS Z 8105 *Glossary of colour terms*

JIS Z 8713 *Retroreflectors—Optical properties—Vocabulary*

JIS Z 8720 *Standard illuminants and sources for colorimetry*