

Translated and Published by Japanese Standards Association

$JIS \; R \; 3420 : 2023$

(GFA/JSA)

Testing methods for textile glass products

Date of Establishment: 1978-04-01

Date of Revision: 2023-07-20

Date of Public Notice in Official Gazette: 2023-07-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

JIS R 3420 : 2023, First English edition published in 2024-12

Translated and published by: Japanese Standards Association Mita Avanti, 3-11-28, 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 2024

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

Contents

Page

Introduction	
1	Scope
2	Normative references ······2
3	Terms and definitions
4	Standard atmospheric conditions and test conditions of laboratory
5	Test items ······ 4
6	Test methods $\cdots 5$
6.1	Linear density ······5
6.2	Mass of fabric and mat ······8
6.3	Moisture content and combustible-matter content $\cdots 12$
6.4	Tensile breaking force ······16
6.5	Twist
6.6	Diameter of single fibre ····································
6.7	Width and length of fabric and mat
6.8	Length of chopped strand
6.9	Thread count (weaving density)
6.10	Thickness of fabric and mat
6.11	Alkali content ·······43
6.12	Zirconium oxide content ······48
6.13	Styrene solubility of binder
6.14	Permeability of fabric
6.15	Folding endurance of fabric
6.16	Softening point
6.17	Tear strength of fabric
6.18	Contact mouldability of fabric and mat
6.19	Tensile breaking force of mat ······62
6.20	Twist balance index of glass yarn ······64
6.21	Stiffness of roving ······65
6.22	Conventional flexural stiffness of fabric ·······67
6.23	Appearance ······70
7	Test report ······72
Annex JA (informative) Comparison table between JIS and corresponding	
International Standards ······73	

Foreword

This Japanese Industrial Standard has been 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 Glass Fiber Association (GFA)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (JIS R 3420: 2013), which has been technically revised.

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

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

Testing methods for textile glass products

Introduction

This Japanese Industrial Standard has been prepared based on the following corresponding International Standards with some modifications of the technical contents to reflect the conditions of the Japanese market: ISO 1887 : 2014 (Edition 4), ISO 1888 : 2022 (Edition 4), ISO 1889 : 2009 (Edition 4), ISO 1890 : 2009 (Edition 4), ISO 2558 : 2010 (Edition 2), ISO 2559 : 2011 (Edition 5), ISO 3341 : 2000 (Edition 3), ISO 3342 : 2011 (Edition 4), ISO 3343 : 2010 (Edition 3), ISO 3344 : 1997 (Edition 2), ISO 3374 : 2000 (Edition 3), ISO 3375 : 2009 (Edition 2), ISO 3616 : 2001 (Edition 2) and its Amendment 1: 2017, ISO 4602 : 2010 (Edition 3), ISO 4603 : 1993 (Edition 2) and its Amendment 1: 2010, ISO 4604 : 2011 (Edition 2), ISO 4606 : 1995 (Edition 2), ISO 4900: 2011 (Edition 2) and ISO 5025 : 2017 (Edition 3).

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standards. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies the general methods for testing continuous glass fibres and products made of continuous glass fibres such as glass fabrics and glass mats (hereafter generically referred to as fabrics and mats, respectively).

NOTE The International Standards corresponding to this Standard and the symbol of degree of correspondence are as follows. ISO 1887: 2014 Textile glass — Determination of combustible-matter content ISO 1888 : 2022 Textile glass — Staple fibres or filaments — Determination of average diameter ISO 1889: 2009 Reinforcement yarns — Determination of linear density ISO 1890 : 2009 Reinforcement varns — Determination of twist ISO 2558: 2010 Textile glass chopped-strand mats for reinforcement of plastics — Determination of time of dissolution of the binder in styrene ISO 2559 : 2011 Textile glass — Mats (made from chopped or continuous strands) — Designation and basis for specifications ISO 3341: 2000 Textile glass — Yarns — Determination of breaking force and breaking elongation ISO 3342 : 2011 Textile glass — Mats — Determination of tensile breaking force ISO 3343:2010 Reinforcement yarns — Determination of twist balance

PROTECTED BY COPYRIGHT