

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS K 6821 : 2020

PLA filaments for 3D printers

ICS 83.080.01

Reference number : JIS K 6821 : 2020 (E)

PROTECTED BY COPYRIGHT

10 S

K 6821 : 2020

Date of Establishment: 2020-02-20

Date of Public Notice in Official Gazette: 2020-02-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Consumer Life Products

JIS K 6821 : 2020, First English edition published in 2021-02

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 2021

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/HN

PROTECTED BY COPYRIGHT

Contents

	Page
1	Scope 1
2	Normative references 1
3	Terms and definitions 1
4	Shape of PLA filament 2
5	Material properties 2
6	Tests 3
6.1	General test conditions 3
6.2	Test methods 4
7	Inspection 9
8	Marking 10
9	Test report 10
Annex A (normative)	Discharge testing machine 12

Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Act.

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.

PLA filaments for 3D printers

1 Scope

This Japanese Industrial Standard specifies the material characteristics of the PLA filaments of a nominal PLA filament diameter of 1.75 mm among polylactic acid filaments (hereafter referred to as PLA filaments) for 3D printers according to the material extrusion process ¹⁾. This Standard does not apply to the PLA filaments of which the lactic acid polymer content has a mass fraction of less than 50 %.

Note ¹⁾ A generic term of processing technologies such as fused deposition modelling.

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 B 7502 *Micrometers*

JIS K 0114 *General rules for gas chromatography*

JIS K 0123 *General rules for gas chromatography / mass spectrometry*

JIS K 0124 *General rules for high performance liquid chromatography*

JIS K 0136 *General rules for high performance liquid chromatography / mass spectrometry*

JIS K 0138 *General rules for quantitative nuclear magnetic resonance spectroscopy*

JIS K 0804 *Gas detector tube measurement system (Length-of-stain type)*

JIS K 7121 *Testing methods for transition temperatures of plastics*

JIS L 0105 *General principles of physical testing methods for textiles*

JIS L 0204-3 *Glossary of terms used in fiber — Part 3 : Materials except natural and chemical fiber*

JIS L 0208 *Glossary of terms used in textile industry — Testing*

JIS L 1013 *Testing methods for man-made filament yarns*

JIS Z 8401 *Rounding of numbers*

JIS Z 8703 *Standard atmospheric conditions for testing*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS L 0105**, **JIS L 0204-3** and **JIS L 0208**, and the following apply.