

JAPANESE INDUSTRIAL STANDARD

Translated and Published by Japanese Standards Association

JIS G 3477-3:2022

(JISF)

Polyethylene coated steel pipes — Part 3: External polyethylene powder coated steel pipes

ICS 77.140.10; 77.140.75

Reference number: JIS G 3477-3: 2022 (E)

G 3477-3: 2022

Date of Establishment: 2012-11-20

Date of Revision: 2022-12-20

Date of Public Notice in Official Gazette: 2022-12-20

Developed by: The Japan Iron and Steel Federation

Investigated by: The Japan Iron and Steel Federation, Standardization

Center

JIS G 3477-3: 2022, First English edition published in 2023-07

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 2023

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 HN

Contents

	Pa	ge
1	Scope	
2	Normative references · · · · · · · · · · · · · · · · · · ·	
3	Terms and definitions · · · · · 2	
4	Symbols of grade ····································	•
5 5.1 5.2	Materials 3 Original pipes 3 Coating materials 4	}
6 6.1 6.2 6.3	Manufacturing method4Pretreatment4Coating method4Inner coating5	: :
7 7.1 7.2 7.3 7.4	Coated steel pipes 5 Coating performance 5 Coating thickness 5 Position and shape of coating at pipe end 6 Appearance 7	
8 8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8 8.9 8.10 8.11	Tests of coated steel pipes 7 Type of test 7 Coating thickness test 8 Pinhole test 8 Adhesive property test 8 Peel strength test 8 Impact test 8 Indentation depth test 8 Test of nominal tensile strain at break 9 Bend test 9 Cathodic disbondment test 9 Hot water immersion test 9	
9 10 10.1 10.2 10.3	Inspection 9 Repair 9 General 9 Repair range 9 Repair method 9)
11	Marking ······10	l
12	Information to be supplied by the purchaser ······10	ļ

G 3477-3: 2022

13 Report ······	10
Annex A (normative)	Polyethylene coating materials · · · · · · 11
Annex B (informative)	Control items of manufacturing process14
Annex C (normative)	Peel strength test method · · · · · · 15
Annex D (normative)	Impact test method ······16
Annex E (normative)	Indentation depth test method · · · · · · · 17
Annex F (normative)	Bend test method · · · · · 18
Annex G (normative)	Cathodic disbondment test method · · · · · · 20
Annex H (normative)	Hot water immersion test method ······22

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry based on the provision of Article 14, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act in response to a proposal for revision of Japanese Industrial Standard with a draft being attached, submitted by The Japan Iron and Steel Federation (JISF), an accredited standards development organization. This edition replaces the previous edition (JIS G 3477-3: 2018), which has been technically revised.

However, **JIS G 3477-3**: 2018 may be applied in the **JIS** mark certification based on the relevant provisions of Article 30, paragraph (1), etc. of the Industrial Standardization Act until 19 December 2023.

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 is not responsible for identifying any of such patent rights, published patent application or utility model rights.

JIS G 3477 series consists of the following 3 parts under the general title *Polyethylene coated steel pipes*:

- Part 1: External 3 layer extruded polyethylene coated steel pipes
- Part 2: External extruded polyethylene coated steel pipes
- Part 3: External polyethylene powder coated steel pipes

Blank

Polyethylene coated steel pipes — Part 3: External polyethylene powder coated steel pipes

JIS G 3477-3: 2022

1 Scope

This Japanese Industrial Standard specifies requirements for the external polyethylene powder coated steel pipes (hereafter referred to as coated steel pipes) mainly used for underground services (including the bottom of river and the bottom of sea) of transporting gas, oil, water, etc.

- NOTE 1 This Standard is applicable to the straight pipes and deformed pipes of outside diameter 21.7 mm (nominal diameter 15A or ½B) to 1 625.6 mm (nominal diameter 1 600A or 64B) (see Table 2 and Table 3).
- NOTE 2 The coated steel pipes are usually used at temperatures in the range of -40 °C to +60 °C.

2 Normative references

Part or all of the provisions of the following standards, 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 2311	Steel butt-welding pipe fittings for ordinary use			
JIS B 2312	Steel butt-welding pipe fittings			
JIS B 2313	Steel plate butt-welding pipe fittings			
$\rm JIS~G~0202$	Glossary of terms used in iron and steel (Testing)			
$\rm JIS~G~0203$	Glossary of terms used in iron and steel (Products and quality)			
JIS G 0404	Steel and steel products — General technical delivery requirements			
JIS G 0415	Steel and steel products — Inspection documents			
JIS G 3444	Carbon steel tubes for general structure			
JIS G 3445	Carbon steel tubes for machine structure			
JIS G 3452	Carbon steel pipes for ordinary piping			
JIS G 3454	Carbon steel pipes for pressure service			
JIS G 3455	Carbon steel pipes for high pressure service			
JIS G 3457	Arc welded carbon steel pipes			
JIS G 3460	Steel pipes for low temperature service			
JIS K 6900	Plastics — Vocabulary			
JIS K 6922-2 Plastics — Polyethylene (PE) moulding and extrusion materials —				