

IGEM/GM/PRS/1
Communication 1793

Meter installation fittings



Founded 1863
Royal Charter 1929
Patron: Her Majesty the Queen



IGEM/GM/PRS/1
Communication 1793

Meter installation fittings



Price Code: C4S
© The Institution of Gas Engineers and Managers
IGEM House
High Street
Kegworth
Derbyshire, DE74 2DA
Tel: 0844 375 4436
Fax: 01509 678198
Email: general@igem.org.uk

Copyright © 2017, IGEM. All rights reserved
Registered charity number 214001

All content in this publication is, unless stated otherwise, the property of IGEM. Copyright laws protect this publication. Reproduction or retransmission in whole or in part, in any manner, without the prior written consent of the copyright holder, is a violation of copyright law.

ISBN 978 1 905903 69 6

ISSN 0367 7850

Published by the Institution of Gas Engineers and Managers

For information on other IGEM Standards, visit our website, www.igem.org.uk.

CONTENTS**SECTION**

1	Introduction	1
2	Scope	2
3	Legal and allied considerations	3
4	Meter fittings	4
5	Materials	8
	• 5.1 General	8
	• 5.2 Fittings covered by a British Standard or relevant drawing	8
	• 5.3 Fittings not covered by a British Standard or drawing	8
	• 5.4 Meter union and adapter washers	8
	• 5.5 Filler metal	8
	• 5.6 Stainless steel wire	8
6	Finish	9
	• 6.1 General	9
	• 6.2 Surface finish	9
7	Design, pressures and dimensions	10
	• 7.1 General	10
	• 7.2 Hot brass stampings	10
	• 7.3 Machined surfaces	10
	• 7.4 Gas integrity	10
	• 7.5 Gas meter unions, adapters, etc.	10
	• 7.6 Multi part (bonded) fittings	11
	• 7.7 Pipe threads	11
	• 7.8 Cold working	11
	• 7.9 Gas tightness	11
	• 7.10 Casting porosity	11
	• 7.11 Gauging of capillary sockets and plan tails	12
8	Marking	13
9	Test methods	15
	• 9.1 Type tests – structural integrity	15
10	Protection and packaging	16
APPENDIX		
1	Glossary, acronyms, abbreviations, units and symbols	17
2	References	19
3	Gas tightness test on multi-part (bonded) fittings	21
4	Gas tightness test on one-piece fittings	22

5	Porosity	23
6	Torque test	24
7	Gas tightness	25
8	Meter fitting drawings	28

FIGURES

1	Gas tightness test apparatus	26
---	------------------------------	----

TABLES

1	Type and dimension of fitting	4-7
2	Relationship between MOP, DMIP and STP	10
3	Plug gauge diameters for imperial capillary sockets, including wear allowance	12
4	Suggested marking locations	14
5	Torque test on multi-part bonded fittings	24

SECTION 1 : INTRODUCTION

- 1.1 This Specification is part of a series of Institution of Gas Engineers and Managers (IGEM) publications, providing a specification for selecting meter installation fittings.
- 1.2 British Gas and latterly, National Grid Metering (NGM) developed a series of specifications for key metering components based on its own suite of product requirements. These documents were made available to meter installers and purchasers under the title of Product Requirement Specification (PRS) 'e' documents. Originally, these Specifications were made available through Advantica, as they were known at the time.
- NGM has transferred the ownership of these documents to IGEM to make them available to the wider industry. It is some years since the original 'e' documents were updated and these have been withdrawn.
- 1.3 This Specification has been drafted by an IGEM Working Group, appointed by IGEM's Gas Measurement Committee, subsequently approved by that Committee and has been approved by IGEM's Technical Coordinating Committee on behalf of the Council of IGEM.
- 1.4 Terms such as "maximum operating pressure" (MOP), "design maximum incidental pressure" (DMIP) and "operating pressure" (OP) are used to reflect gas pressure terminology used in European standards. These terms will arise in all relevant IGEM Standards and, possibly, in other standards. Other terms are included to assist in recognition of design information to be transferred between interested parties.
- 1.5 This Specification makes use of the term "must", "shall" and "should" when prescribing particular requirements.
- the term "must" identifies a requirement by law in Great Britain (GB) at the time of publication
 - the term "shall" prescribes a requirement which, it is intended, will be complied with in full and without deviation
 - the term "should" prescribes a requirement which, it is intended, will be complied with unless, after prior consideration, deviation is considered to be acceptable.
- Such a term may have different meanings when used in legislation, or Health and Safety Executive (HSE) Approved Codes of Practice (ACoPs) or guidance, and reference needs to be made to such statutory legislation or official guidance for information on legal obligations.
- 1.6 New and improved products, materials or production methods may be adopted prior to this Specification being updated. Amendments to this Specification will be issued when necessary and their publication will be announced in the Journal of IGEM and elsewhere as appropriate.
- 1.7 Requests for interpretation of this Specification in relation to matters within its scope, but not precisely covered by the current text, should be addressed to Technical Services, IGEM, IGEM House, High Street, Kegworth, Derbyshire, DE74 2DA. Such requests will be submitted to the relevant Committee. Any advice given by or on behalf of IGEM does not imply acceptance of any liability, and does not relieve any party of their obligations.
- 1.8 This Specification was published in April 2017.

SECTION 2 : SCOPE

- 2.1 This Specification gives the technical requirements for selected meter installation fittings and provides guidance to meter installation designers, constructors and installers.
- 2.2 Fittings are for use with 1st, 2nd and 3rd family gases as defined in BS EN 437 at temperatures between -20°C and +60°C. Each fitting is for use at MOP and DMIP as specified in Section 4.
- 2.3 This Specification is to be read in conjunction with BS 746, which also covers meter installation fittings.
- Note: The majority of the fittings contained within this document are not specifically included in BS 746. However in a small number of cases the fittings appear in both documents, it is to be noted that this document has additional requirements over and above the requirements in BS 746.*
- 2.4 This Specification sets out the requirements for type testing.
- 2.5 This Specification requires consideration of the life cycle of the product and its potential effect on the environment.
- 2.6 All pressures quoted in this Specification are gauge pressures unless otherwise stated.
- 2.7 Italicised text is informative and does not represent formal requirements.
- 2.8 Appendices are informative and do not represent formal requirements unless specifically referenced in the main sections via the prescriptive terms "must", "shall" or "should".