

IGEM/TD/19
Communication 1812

Reinforced thermoplastic pipelines for high pressure gas transmission



Founded 1863
Royal Charter 1929
Patron: Her Majesty the Queen



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***Reinforced thermoplastic pipelines for
high pressure gas transmission***



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SECTION 1 : INTRODUCTION

- 1.1 This Standard is an Institution of Gas Engineers and Managers (IGEM) publication, providing requirements for reinforced thermoplastic pipelines for high pressure gas transmission.
- 1.2 This Standard has been drafted by a Panel appointed by the Institution of Gas Engineers and Managers' (IGEM's) Gas Transmission and Distribution Committee, subsequently approved by that Committee and published by the authority of the Council of the Institution.
- 1.3 IGEM's documents IGEM/TD/1 Edition 5 and IGEM/TD/3 Edition 5 provide the requirements for pipelines for gas transmission and distribution respectively. IGEM/TD/3 specifies the use of steel as the material for pipelines with a maximum operating pressure (MOP) above 10 bar and the scope of IGEM/TD/1 is pipelines with a MOP exceeding 16 bar.
- 1.4 The availability of pipe constructed from reinforced thermoplastic (RTP) provides an alternative material for pipelines designed to have a MOP exceeding 7 bar and not exceeding 100 bar. This Standard documents the requirements for design, construction, testing, commissioning, operation and maintenance of RTP pipe forming part of a pipeline.
- 1.5 Terms such as "maximum operating pressure" (MOP), "maximum incidental pressure" (MIP) 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 have been introduced to assist in recognition of design information to be transferred between interested parties.
- 1.6 This Standard 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.
- 1.7 New and improved products, materials, diameters or production methods may be adopted prior to this Standard being updated. Amendments to this Standard will be issued when necessary and their publication will be announced in the Journal of IGEM and elsewhere as appropriate.
- 1.8 Requests for interpretation of this Standard in relation to matters within its scope, but not precisely covered by the current text, are to be addressed to Technical Services, IGEM, IGEM House, High Street, Kegworth, Derbyshire, DE74 2DA or emailed to technical@igem.org.uk. 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.
- 1.9 This Standard was published in July 2019.

SECTION 2 : SCOPE

- 2.1 This procedure covers design, construction, testing, commissioning, operation and maintenance of pipe constructed from RTP material that is buried, laid between points on land, with a MOP exceeding 7 bar and not exceeding 100 bar. In general, the requirements of IGEM/TD/1 are to be followed, with additional guidance relating specifically to RTP pipe being provided by this Standard. It is noted that not all requirements of IGEM/TD/1 are appropriate to RTP pipe; however, it may be necessary to consider some aspects (e.g. cathodic protection) as part of the overall pipeline. In some cases it has been necessary to reference IGEM/TD/3 as an example Standard for the requirements of polyethylene (PE) liner materials.
- 2.2 The requirements of IGEM/TD/13 Edition 2 are to be followed for the design, construction, inspection, testing, operation and maintenance of pressure regulating installations connected to the RTP pipe.
- 2.3 Figure 1 below defines the limits of this Standard:

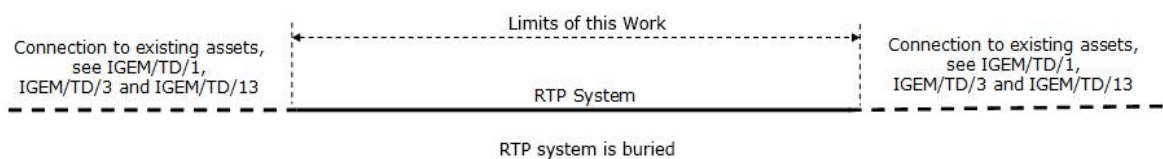


FIGURE 1 – LIMITS OF IGEM/TD/19

Note: RTP section may include short sections of steel.

- 2.4 An RTP system has different operation and maintenance requirements to those of a steel system and therefore may only be installed where it is possible to decommission the RTP section without implication on the continuity of supply.
- 2.5 All references to pressure are gauge pressure, unless otherwise stated.
- 2.6 Italicised text is informative and does not represent formal requirements.
- 2.7 Appendices are informative and do not represent formal requirements unless specifically referenced in the main sections via the prescriptive terms “must”, “shall” or “should”.