IGEM
Institution of
Gas Engineers & Managers

Gas Utilization Procedures
IGE/UP/7 Edition 2
Communication 1722

Gas installations in timber framed and light steel framed buildings

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Charnwood Wing
Holywell Park
Ashby Road
Loughborough, Leics, LE11 3GH
Tel: 01509 282728
Fax: 01509 283110
Email: general@igem.org.uk
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SECTION 1 : INTRODUCTION

1.1 These Procedures have been drafted by an Institution of Gas Engineers and Managers' (IGEM) Panel, appointed by IGEM's Gas Utilization Committee, and have been approved by IGEM's Technical Co-Ordinating Committee on behalf of the Council of IGEM.

The Panel comprised representatives of:

- Association of Independent Gas Transporters (AIGT)
- British Flue and Chimney Manufacturers Association (BFCMA)
- British Gas plc
- Council for Registered Gas Installers (CORGI)
- Home Builders Federation (HBF)
- Health and Safety Executive (HSE)
- Institution of Gas Engineers and Managers (IGEM)
- National Grid plc
- National House Building Council (NHBC)
- SBGI (formerly known as the Society of British Gas Industries)
- Scottish Building Standards Agency (SBSA)
- Steel Construction Institute
- United Kingdom Timber Frame Association (UKTFA).

1.2 These Procedures supersede IGE/UP/7, Communication 1651, which is obsolete.

These Utilization Procedures were published on 5th September 2006. They may be used rather than the procedures given in IGE/UP/7 Edition 1 immediately, but a lead-in period is allowed permitting the use of Edition 1 until 5th December 2006.

1.3 These Procedures offer guidance on fixed gas installations within timber and light steel framed buildings and are directed at architects, designers, builders, building control, gas transporters (GTs), utility infrastructure providers (UIPs), gas operatives and appliance and component manufacturers.

The intent is to provide a source of information on good practice for gas installations in timber and light steel framed buildings with explanatory reference to the special features of construction that affect such installations.

These Procedures are additional to otherwise available general practices, manufacturer's instructions and guidance appertaining to gas installations.

1.4 Although the most common types of construction and installation are covered, the Procedures cannot be comprehensive as there are variants in timber and light steel frame construction such as the type of external cladding and lining used. In addition, appliance design and installation are under continual development and, thus, this document can present a view of the situation only at the time of writing.

1.5 New terms such as "maximum operating pressure" (MOP) and "operating pressure" (OP) have been introduced to reflect gas pressure terminology used in European standards. These terms will arise in all relevant IGEM technical publications in future and, possibly, in other standards. Other new terms have been introduced to assist in recognition of design information to be transferred between interested parties.

New European terminology in relation to chimneys has also been incorporated.

1.6 These Procedures make use of the terms "should", "shall" and "must" when prescribing particular procedures. Notwithstanding Sub-Section 1.9:

(a) The term "must" identifies a requirement by law in Great Britain at the time of publication.

(b) The term "shall" prescribes a procedure which, it is intended, will be complied with in full and without deviation.

(c) The term "should" prescribes a procedure which, it is intended, will be complied with unless, after prior consideration, deviation is considered to be acceptable.

1.7 The primary responsibility for compliance with legal duties rests with the employer. The fact that certain employees, for example “responsible engineers”, are allowed to exercise their professional judgement does not allow employers to abrogate their primary responsibilities. Employers must:

- comply with legislation
- have done everything to ensure, so far as is reasonably practicable, that there are no better protective measures that can be taken other than relying on the exercise of professional judgement by “responsible engineers”.
- have done everything to ensure, so far as is reasonably practicable, that “responsible engineers” have the skills, training, experience and personal qualities necessary for the proper exercise of professional judgement.
- have systems and procedures in place to ensure that the exercise of professional judgement by “responsible engineers” is subject to appropriate monitoring and review.
- not require “responsible engineers” to undertake tasks which would necessitate the exercise of professional judgement that is outwith their competence. There should be written procedures defining the extent to which “responsible engineers” can exercise their judgement. When “responsible engineers” are asked to undertake tasks which deviate from this, they should refer the matter for higher review.

1.8 It is now widely accepted that the majority of accidents in industry generally are in some measure attributable to human as well as technical factors in the sense that actions by people initiated or contributed to the accidents, or people might have acted better to avert them.

It is, therefore, necessary to give proper consideration to the management of these human factors and the control of risk. To assist in this, it is recommended that due cognizance be taken of the HS(G)48.

1.9 These Procedures do not attempt to make the use of any method or specification obligatory against the judgement of the responsible engineer. Where new and better techniques are developed and proved, they should be adopted without waiting for modification to these Procedures. Amendments to these Procedures will be issued when necessary and their publication will be announced in the Journal of IGEM and other publications as appropriate.

1.10 Requests for interpretation of these Procedures in relation to matters within their scope, but not precisely covered by the current text, should be addressed to Technical Services, IGEM, Charnwood Wing, Holywell Park, Ashford Road, Loughborough, Leicestershire, LE11 3GH and will be submitted to the relevant Committee for consideration and advice, but in the context that the final responsibility is that of the engineer concerned. If any advice is given by or on behalf of IGEM, this does not relieve the responsible engineer of any of his or her obligations.

SECTION 2 : SCOPE

2.1 These Procedures apply to the installation of Network pipelines (see Note below), meter installations, installation pipes and pipework and appliances including their open flue chimney or room sealed chimney system, in new and existing timber and light steel framed buildings containing single or multiple dwellings (for example flats and maisonettes). The principles contained in these Procedures may also be applied to some non-domestic buildings but these Procedures do not address such special applications directly.

Note: Network pipelines, for the purposes of these Procedures, include "distribution mains", "service pipes" and, for LPG "service pipework". While there may be differences between these terms within relevant legislation, for "distribution mains" and "service pipes" for Natural Gas the technical advice contained in these Procedures is the same. For "service pipework" for LPG, the advice again is the same but due allowance has to be taken of the properties of LPG compared to Natural Gas.

IGE/G/1 contains further information with respect to Natural Gas pipelines.

As timber framed and light steel framed buildings are, essentially, similar in principle, most of the procedures are addressed to timber framed buildings (Part 1) and the points of difference applied to light steel framed buildings are given in Part 2. General descriptions of both types of construction are given in the appendices.

2.2 Part 1 of these Procedures deals specifically with timber framed buildings constructed by the platform frame method (see Appendix 3) although, in general, it is appropriate to other types of timber frame construction.

Note 1: The details for installations in multi-dwelling buildings are referred to IGE/G/5, except where there are specific procedures concerning the timber or light steel frame construction.

Note 2 These Procedures assume a gas supply layout as given in IGE/G/1 for "recommended gas supply arrangements".

2.3 These Procedures cover installations utilizing odorised 2nd family gas, for example Natural Gas at a maximum operating pressure (MOP) of 75 mbar within buildings and 3rd family gas, for example LPG. While these comprise the majority of fuel gases available, the Procedures will, on the whole, be applicable for other fuel gases although cognizance has to be taken of special properties of such gases both in the burned and unburned state.

Note: This limits MOP downstream of the meter regulator to 75 mbar. Where the Network MOP exceeds 75 mbar, a pressure regulating installation (PRI) has to be installed in the Network pipeline in accordance with IGE/TD/13 or a primary meter installation has to be installed in accordance with IGE/GM/8 or BS 6400-2, as appropriate. Such an installation has to be located outside the building or in a separate enclosure sealed from the building and accessible only from outside.

2.4 These Procedures are applicable to the installation of appliances having a heat input not exceeding 70 kW based on net calorific value (CV), which have been CE marked and for which the appliance manufacturer's instructions advise that the appliance is suitable for installation in a timber frame and/or a light steel frame building.

Note: For countries outside the European Union, the Procedures will be applicable provided that the appliance concerned complies with standards equivalent to those applied for CE marking.

2.5 These Procedures apply to all types of open flue chimney or room sealed chimney system (that comply with appropriate construction standards) for gas appliances, whether they are separate from, or integral with, the appliances.

2.6 These Procedures apply to first time installations and to renewals/renovations (retrofits).

2.7 The illustrations in these Procedures are intended to support the stated procedures for the purpose of clarity. They should not be considered as necessarily showing the only method of complying with the Procedures. However, they are intended to depict good practice.

2.8 Italicised text is informative and does not represent formal Procedures.

2.9 Appendices are informative and do not represent formal Procedures unless specifically referenced in the main sections via the prescriptive terms “should”, “shall” or “must”.