

***IGEM/TD/1 Edition 5
Supplement 1
Communication 1736***

***Handling, transport and storage of
steel pipe, bends and fittings***



*Founded 1863
Royal Charter 1929
Patron: Her Majesty the Queen*

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SECTION 1 : INTRODUCTION

- 1.1 This Standard is issued as a Supplement to IGE/TD/1 Edition 5, and supersedes IGE/TD/1 Edition 4 Supplement 1 which is obsolete.

This Supplement 1 can be read and used independently of IGE/TD/1. The advice contained herein may be used for the handling, transport and storage of steel components to be used in any fuel gas installation, such as those designed and installed in accordance with IGE/TD/3, IGE/TD/4, IGE/TD/13, IGE/UP/2, IGE/UP/3, IGE/UP/6, IGE/UP/7, IGE/UP/8, IGE/UP/9, IGE/UP/10, IGE/UP/11, IGE/UP/12, IGE/GM/4, IGE/GM/6 and IGE/GM/8 (see the list of all Standards available at www.igem.org.uk).

- 1.2 This Standard has been drafted by a Panel appointed by the IGE's Gas Transmission and Distribution Committee, subsequently approved by that Committee and published by the authority of the Council of IGE.

- 1.3 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 cognisance should be taken of the publication HS(G)48.

- 1.4 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:

- (a) 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".
- (b) 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.
- (c) Have systems and procedures in place to ensure that the exercise of professional judgement by "responsible engineers" is subject to appropriate monitoring and review.
- (d) Not require "responsible engineers" to undertake tasks which would necessitate the exercise of professional judgement that is beyond 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 that deviate from this, they should refer the matter for higher review.

- 1.5 This Standard does 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 this Standard. Amendments to this Standard will be issued when necessary and their publication will be announced in the Journal of IGE and other publications as appropriate.

- 1.6 Requests for interpretation of this Standard in relation to matters within its scope, but not precisely covered by the current text, should be addressed to Technical Services, IGEN, Charnwood Wing, Holywell Park, Ashby Road, Loughborough, Leicestershire, LE11 3GH, email: technical@igem.org.uk 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 IGEN, this does not relieve the responsible engineer of any of his or her obligations.

SECTION 2 : SCOPE

- 2.1 This Standard covers the handling, transport and storage, whether in depot or on site, of coated and uncoated steel pipes, bends and fittings.
- 2.2 Primarily, this Standard deals with the handling, transport and storage of single lengths of pipe.
- 2.3 Owing to the wide range of components and assemblies available, the requirements are of a general nature to provide the minimum requirements for short term storage and the additional measures to be taken when components and assemblies are held for extended periods of time.

The specific application will, therefore, need to take account of the particular circumstances involved and the components and assemblies that are being handled, transported or stored.

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SECTION 3 : PIPE

All handling, lifting, transportation and storage of steel pipe must be planned and undertaken in accordance with relevant legislation, such as The Lifting Operations and Lifting Equipment Regulations and the Manual Handling Regulations. Other legislation that may be relevant is listed in A2.1.2, which also lists associated Approved Codes of Practice and Guidance.

3.1 HANDLING

3.1.1 Lifting appliances

- 3.1.1.1 Any handling operation on pipes, bends or tees of 150 mm or greater nominal size shall be carried out using a lifting appliance, for example a fixed or mobile crane, unless directed otherwise.

Note: Pipes of less than 150 mm nominal diameter may be either manhandled or appliance-lifted, as required.

- 3.1.1.2 Whatever method of lifting is to be used, particular attention shall be paid at all times to the stability of the load. Where handling involves the use of bogies, vehicles, trailers, etc., the load shall be located to achieve maximum stability and be secured properly. Care shall be taken during handling to protect painted surfaces, special coatings and projections on components.

- 3.1.1.3 All mobile equipment, for example cranes, forklift trucks etc., shall be driven only by trained and competent operators. Such equipment shall be used only in suitable locations. When a fork-lift truck is used, care shall be taken to ensure that the lifting device is appropriate to the job in hand. A single prong attachment should be used when lifting without a container (stillage) or pallet. A double prong attachment should be used only where a container (stillage) or pallet is employed.

- 3.1.1.4 Prior to commencing a lifting operation, a risk assessment shall be carried out with particular respect to competency, supervision, hazards and persons in the proximity, visibility, and capacities of the equipment being used.

- 3.1.1.5 Lifting devices that do not depend primarily on mechanical support, for example vacuum and magnetic devices, may be used but their use should not be detrimental to the pipe coating and they shall ensure that suitable mechanical support comes into effect in the event of power failure.

3.1.2 Spreader beams and slings

- 3.1.2.1 Where practicable, pipes should be lifted using a spreader beam with suitable slings, profiled hooks or rod inserts (see Figures 1 and 2) as this is the safest method. Slings should be of the fabric belt type.

- 3.1.2.2 Belt slings should be positioned symmetrically on the spreader beam, at approximately the one-quarter and three-quarter positions along the pipe, and should hang vertically.

- 3.1.2.3 Wire rope slings deteriorate rapidly by weathering or mishandling. Where they are used, suitable provision shall be made for their maintenance and storage.

3.1.3 Lifting of bundles

- 3.1.3.1 Bundles may be lifted by crane or fork lift truck. Occasionally, several bundles may be fastened together by the supplier for ease of loading. Upon receipt, a check should be made to see if this is so and, dependent on the lifting equipment available, and where necessary, the load separated into its individual bundles before the vehicle is unloaded.