

商業用氣體接駁軟喉
FLEXIBLE GAS TUBING
FOR COMMERCIAL APPLICATIONS

(不包括低壓氣體接駁軟喉)
(NOT INCLUDING FLEXIBLE GAS TUBING
FOR LOW PRESSURE APPLICATIONS)

工作守則：氣體應用指南之十五
CODE OF PRACTICE GU15

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FLEXIBLE GAS TUBING

FOR COMMERCIAL APPLICATIONS

(NOT INCLUDING FLEXIBLE GAS TUBING
FOR LOW PRESSURE APPLICATIONS)



December 2007

Issue 1

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SECTION 1 Foreword

- 1.1 The purpose of this code is to provide guidelines to the gas industry for the supply and installation of flexible gas tubing for commercial applications. The code, however, is not applicable to flexible gas tubing for Notifiable Gas Installation (NGI) applications as well as those for low pressure applications; the latter is governed by the Code of Practice GU01 – Approval of Flexible Gas Tubing for Low Pressure Applications.
- 1.2 A model of flexible gas tubing which is in compliance with the conditions as set out in Sections 3 and 4 of the code will be listed by the Gas Authority upon the acceptance of a submitted application. The list of models will serve as a reference for the gas industry. Registered gas contractors can verify the model of flexible gas tubing against the listing prior to tubing installation.
- 1.3 This code should not be regarded as exhaustive. It is not intended to relieve persons from undertaking the work of their statutory responsibilities in accordance with the safety legislation.
- 1.4 Importers or local manufacturers may apply for inclusion of their flexible gas tubing into the listing maintained by the Gas Authority as detailed in Section 4 of the code. Upon the application, importers or local manufacturer shall ensure that the flexible gas tubing satisfies the requirements of the code and also, in the interests of safety, pledge to comply with the general provisions of gas fittings in the Gas Safety Ordinance. (Chapter 51).
- 1.5 Importers or local manufacturers shall be fully responsible for the quality of the flexible gas tubing they distribute, supply or sell and must take all reasonable measures to monitor the performance of manufacturers and implement any remedial measures arising from product safety and quality concerns (see Sections 3.1.8). Inclusion in the listing does not imply or guarantee production quality of shipments of flexible gas tubing for use in Hong Kong.

- 1.6 The listing will be maintained to contain models of flexible gas tubing that continue to comply with the requirements of the code (see Section 4). The Gas Authority will:-
- (a) assume no responsibilities for how the information contained in the listing is used;
 - (b) make no representations, warranties or endorsements whatsoever about the suitability of proprietary products and related services for individual users / applications, safety of products, fitness for purposes, mercantile quality, etc.; and
 - (c) not be liable for any loss or damage or injury to any property or person arises whether directly or indirectly as a result of referring to or using any information contained in the listing.

SECTION 2 Scope and Terminology

2.1 Scope

- 2.1.1 Any person who wishes to import or manufacture locally for sale or supply of a model of flexible gas tubing for commercial applications in Hong Kong may apply to the Gas Authority for listing.
- 2.1.2 The listing conditions in this part of the code apply to the listing of flexible gas tubing for commercial applications.
- 2.1.3 The listing conditions specified hereunder are subject to revision as deemed appropriate in line with up-to-date design technologies, safety and quality standards, etc., of flexible gas tubing.
- 2.1.4 Listing of flexible gas tubing consists of a two-tier system, which includes
- (a) type listing subject to continuing compliance with pre-listing conditions; and
 - (b) validation of listing subject to compliance with post-listing conditions.

The detailed requirements are set out in Sections 3 and 4 of this code respectively.

2.2 Terminology

- “Applicant”** means a person who applies for listing of a model of flexible gas tubing from the Gas Authority with an intention to import into or locally manufacture in Hong Kong such model to be sold or supplied for use in Hong Kong.
- “Listing”** means inclusion into the list maintained by the Gas Authority for the models of flexible gas tubing for commercial applications that comply with the requirements of this code.
- “Commercial Applications”** means an application of flexible gas tubing for commercial applications in Hong Kong which is:--
- (a) non-domestic ; and
 - (b) non-industrial in nature
- “Flexible Gas Tubing”** means a tubing for use in a gas installation which is:-
- (a) not rigid; and
 - (b) used for connecting a gas fitting directly to a supply of gas.
- “Gas Authority”** means the public officer appointed under Section 5 of the Gas Safety Ordinance Cap. 51.

“Importer”	means a person who engages in the business of importation of flexible gas tubing for supply, sale or use in Hong Kong.
“International / National Safety Standards”	means standards for flexible gas tubing design, construction and safety performance issued or accepted by recognised certification authorities.
“Low Pressure”	means a gas pressure of not more than 7.5 kPa.
“Manufacturer”	means the maker of a flexible gas tubing for use in Hong Kong.
“Recognised Certification Authority (RCA)”	means an independent organisation recognised by the Gas Authority which is empowered under law or decree, (e.g. a notified body appointed by the Commission of European Communities), to certify that a flexible gas tubing is designed and manufactured in compliance with international or national safety standard(s).
“Type Test Certificate”	means a certificate issued by a Recognised Certification Authority to certify that a flexible gas tubing complies with relevant international or national safety standard(s).

“Notifiable Gas Installation ”

means a gas installation which is defined under the interpretation of “notifiable gas installation” in Part I of Gas Safety Ordinance, Cap. 51. LPG in containers exceeding 130 litres total water capacity, is a notifiable gas installation (NGI) and shall be approved by the Gas Authority in accordance with Regulation 3 of the Gas Safety (Gas Supply) Regulations.

SECTION 3 Pre-Listing Conditions

3.1 Documents to be Submitted for Type Listing Application

The applicant shall fill in a prescribed application form and submit relevant documents in Chinese or English to confirm that the following requirements for flexible gas tubing are complied with:-

3.1.1 Manufacturer's Capabilities and Technical Documentation

The applicant shall provide the manufacturer's company profile, technical information and specifications of the model of flexible gas tubing in application including catalogue, construction drawing including dimensions such as length, diameter and thickness, detail of connection fitting and service life of flexible gas tubing, details of manufacturing facilities, job references, etc.

3.1.2 Manufacturer' Production Quality System Certification

The manufacturer's production processes shall incorporate a quality system certified to a recognised international or national quality standard (to ISO 9000 or equivalent), by an accredited organisation recognised by the Gas Authority to assure:-

- (a) the quality of components and materials supplied by vendors or sub-contractors which are critical to the safe operation of the products;
- (b) the quality at each stage in production and assembly processes; and
- (c) the quality of products.

Original or certified true copy of certification documents shall be submitted upon application for type listing.

3.1.3 Manufacturer's Vendors' Production Quality System Certification

The manufacturer's works must have rigorous incoming material inspection procedure for the materials which are critical to the safe operation of the product, such as components made of rubber / thermoplastic materials, fastener for end-connections, etc. Otherwise, the vendors / sub-contractors supplying these materials must have a quality system certified to recognised international or national standards (to ISO 9000 or equivalent) by an accredited organisation recognised by the Gas Authority. Original or certified true copy of certification documents shall be submitted upon application for type listing.

3.1.4 Type Test Certification

The flexible gas tubing shall be manufactured in accordance with a recognised international or national product safety standard, such as one listed in Section 6. Original or certified true copy of type test certificate for a model of flexible gas tubing issued by a recognised certification authority (RCA) confirming the following requirements shall be submitted:-

- (a) the model has successfully completed tests in accordance with a recognised international or national product safety standards (for example EN, LIA, etc.);
- (b) the model is suitable for particular gas type(s) distributed in Hong Kong; and

- (c) the model is compatible with the standards of gas fittings being used in Hong Kong.

3.1.5 Installation Instructions

Flexible gas tubing shall be supplied by the manufacturer with installation instructions accepted by the RCA responsible for issuing the type test certificate. Installation instructions shall be printed in Chinese and, if deemed necessary, in English as well. Diagrams / drawings may include some technical terms in English where such terms are commonly used and applied by registered gas installers. However, all instructions relating to safety of installation must include Chinese version.

3.1.6 Statement by the Manufacturer

The manufacturer shall provide a statement or undertaking on the collaboration between the manufacturer and the applicant stating that the manufacturer will render technical support to the applicant in Hong Kong, so that the applicant can meet the Gas Authority's requirements as set out in Sections 3 and 4 of this code.

3.1.7 Statement by the Applicant

The applicant shall provide a statement of undertaking confirming that after the granting of type listing, he / she will comply with the post-listing conditions as set out in Section 4 of this code. The applicant shall also demonstrate its capability and standing as a part of the local gas industry and the continuing technical support it will provide to the supply chain. Company organization chart and copy of Business Registration Certificate shall be submitted.

When not being a Registered Gas Contractor, the applicant shall demonstrate that he / she has arranged adequate technical support to be provided by a registered gas contractor in providing gas installation work and assistance whenever necessary in dealing with remedial measures and quality assurance as described in Section 3.1.8.

3.1.8 Manual of Remedial Measures

The applicant shall compile a "Manual of Remedial Measures" documenting details of organization, contact person and procedures to take corrective actions promptly and effectively in the event of a product problem / defect involving safety arising after the product has been supplied or installed. Measures such as product recall / recovery actions shall be detailed in the Manual. The applicant shall confirm in the Manual the assumption of all responsibilities and liabilities arising from taking all necessary remedial measures pertaining to the product.

3.2 Other Requirements

3.2.1 Product Description Labeling of Flexible Gas Tubing

The flexible gas tubing shall be imprinted or labeled in description to indicate essential product information as follows:-

- manufacturer;
- model code;
- batch number or code;
- manufacturing date;
- service life;

- gas type(s);
- nominal working pressure; and
- if necessary, registered trademark as determined by the importer or the manufacturer.

The proposed details of the marking and the product description labeling shall be provided to the Gas Authority when the application for listing is submitted.

3.2.2 Samples of Flexible Gas Tubing

The applicant shall provide to the Gas Authority a set of samples of the model of flexible gas tubing in application completed with sample marking and labeling for evaluation.

SECTION 4 Post-Listing Conditions

Upon obtaining type listing and thereafter to secure validation of listing for on-going import or local manufacture of the model of flexible gas tubing, the importer or local manufacturer shall continue to comply with all post-listing conditions specified in this Section and undertake to submit a half-yearly report to the Gas Authority advising on stock records of manufacture, import and supply of the flexible gas tubing.

The Applicant shall confirm in writing that, upon inclusion into the listing, the role of importer or local manufacturer is assumed and shall commit to continue to comply with the post-listing conditions as stipulated under Section 4.1 to Section 4.7.

4.1 Provision of Certificate of Compliance by the Manufacturer

Each batch of tubing manufactured shall be accompanied by a certificate of compliance prepared by the manufacturer.

This shall confirm:-

- (a) that the batch of tubing has been manufactured under a production quality system certified to a recognised international or national standard (see Sections 3.1.2 and 3.1.3) and in compliance with the original international or national product safety standard (see Section 3.1.4) and other requirements (see Sections 3.1.5, 3.2.1 and 4.3); and
- (b) the location of manufacture as depicted in the type test certificate issued by the RCA and / or otherwise stated by the manufacturer prior to type listing.

The importer or local manufacturer shall keep full records of certificates of compliance for inspection at the request of the Gas Authority.

4.2 Installation Instructions, Marking, Labeling and Packaging by the Manufacturer

4.2.1 Flexible gas tubing shall be supplied with installation instructions, marking and labeling as detailed in Section 3.2.1.

4.2.2 Flexible gas tubing shall be supplied by the manufacturer in packaging that affords maximum protection. Tubing in prescribed quantities shall be packed in containers displaying outer descriptions printed in Chinese and / or English.

4.3 Quality Assurance by the Importer or Local Manufacturer

The importer or local manufacturer is required to be self-satisfied with the continued quality of listed tubing marketed in Hong Kong. Where the occurrence of substantiated complaint or incident indicates that a batch of flexible gas tubing fails to comply with safety or quality requirements or poses a potential safety hazard to the public, for the existing or the forthcoming distribution, the supply or sale of the model of flexible gas tubing for use in Hong Kong must be suspended immediately. The case must be reported to the Gas Authority for investigation without any delay. Depending on the severity, it may result in suspension or withdrawal of type listing, cessation of supply or sale and / or initiation of product recall pending appropriate recovery actions for correction of any variance in design or production. The actions documented in the "Manual of Remedial Measures" shall be implemented by the importer or local manufacturer and, if necessary, in conjunction with the registered gas contractor referred to in Section 3.1.8, after consultation with the Gas Authority, in a prompt and effective manner.

4.4 Notification of Changes by the Importer or Local Manufacturer

It is the sole responsibility of the importer or local manufacturer to ensure validity of all relevant certification documents in order to sustain the continuation of listing of the flexible gas tubing. The manufacturer shall promptly

report to the RCA and the importer, and the importer or local manufacturer shall, in turn, within 14 days report to the Gas Authority any change in particulars of the flexible gas tubing pertaining to Section 3.1 above.

4.5 Records of Import or Manufacture and Supply

Records of import or manufacture and supply shall be made available by the importer or local manufacturer for inspection by the Gas Authority for a period covering at least the last two years at any time. A summary of the relevant records shall be submitted to the Gas Authority at half-yearly intervals. In addition, the Gas Authority may request the importer or local manufacturer to produce records on an ad hoc basis should circumstances warrant.

4.6 Audit of Manufacture or Import and Supply by the Gas Authority

The Gas Authority may conduct scheduled or unscheduled audit at the premises of the importer or the manufacturer to monitor compliance with the code of practice and regulations at any time. It is the duty of the importer or the local manufacturer to co-operate and facilitate the smooth conduction of the audits.

4.7 Non-Compliance with Post-Listing Conditions by the Importer or Local Manufacturer

The Gas Authority may conduct actions such as warning, reprimand, suspension of listing or withdrawal of listing against an importer or local manufacturer who fails to comply with the post-listing conditions specified in this Section of the code as the case may be.

SECTION 5 Listed Flexible Gas Tubing for Commercial Applications

Listed models of flexible gas tubing for commercial applications will be entered into a list available for inspection at the office of the Gas Authority and at the EMSD web site. Model of flexible gas tubing which has been suspended or withdrawn will be listed separately.

SECTION 6 References

The latest editions of the following national / international standards are for reference:-

ISO 9001	Quality Management Systems – Requirements
EN 559	Rubber hoses for welding, cutting and allied processes
AS 1869	Hose and hose assemblies for liquefied petroleum gases (LPG), natural gas and town gas (issued by Standards Australia)
BS 3212	Specification for Flexible Rubber Tubing, Rubber Hose and Rubber Hose Assemblies for Use in LPG Vapour Phase and LPG/Air Installations (issued by the British Standards Institution)
JIS 6347-1	Rubber hoses for liquefied petroleum gases (LPGs) Part 1: Automobile, General equipment and home application – Specification (issued by the Japan Standards Association JSA)
JIS K 6348	Extruded Rubber Tubes for Gas (issued by the Japan Standards Association JSA)
JIS 6351	Wire Reinforced Rubber Hoses for Gaseous Fuels (issued by the Japan Standards Association JSA)

LIA 310	Testing of Flexible Pipes for LPG Piping (issued by the Japan LPG Instrument Inspection Association LIA in Japanese version)
LIA 440	Testing of Hose Assembly for LPG Appliances (issued by the Japan LPG Instrument Inspection Association LIA in Japanese version)
LIA 700	Testing of high performance gas fittings for LPG Applications (issued by the Japan LPG Instrument Inspection Association LIA in Japanese version)
NF D36-102	Household Economy – Flexible Rubber Tubing for the External connection of Domestic Appliance using Gaseous Fuels by Networks (issued by the Association Francaise de Normalisation AFNOR in French version)
DIN 3383	Hose assemblies and connection valves for gas (issued by the Deutsches Institut für Normung e.V. DIN in German version)
EN 14800	Corrugated metallic flexible piping

SECTION 7 Appendix

- ◆ Application form for Listing of Flexible Gas Tubing for Commercial Applications

申請列入商業用氣體接駁軟喉表列名單
APPLICATION FOR LISTING OF FLEXIBLE GAS TUBING
FOR COMMERCIAL APPLICATIONS

第一部分 申請人資料

Section 1 Applicant Information

申請人 Applicant : 進口商 Importer 本地製造商 Local Manufacturer

公司名稱 Company Name: _____

商業登記證號碼 Business Registration Certificate Number.: _____

地址 Address : _____

聯絡人 Contact Person : _____ 電話號碼 Telephone Number : _____

傳真號碼 Fax : _____ 電郵地址 E-mail Address : _____

第二部分 申請列入表列名單的氣體接駁軟喉的資料

Section 2 Information of Flexible Gas Tubing Being Applied for Listing

製造商 Manufacturer	
牌子 / 型號 Brand name / Model	
製造地點 Place of manufacture	
產品安全標準 Product safety standard	
氣體類別 Gas type	
標稱直徑 Nominal bore diameter	
額定工作壓力 (千帕斯卡) Nominal working pressure (kPa)	
最高工作壓力 (千帕斯卡) Maximum working pressure (kPa)	
使用壽命 Service life	

第三部分 文件/證明書

Section 3 Documents / Certificates

請參閱工作守則氣體應用指南之十五「**商業用氣體接駁軟喉**」，並附上下列所需文件，及於空格內加上“✓”號以便處理閣下的申請。

Please enclose the following documents with reference to the Code of Practice GU15 - “**FLEXIBLE GAS TUBING FOR COMMERCIAL APPLICATIONS**” and put a “✓” against the appropriate box(es) for processing of your application for listing.

- (1) 包含氣體接駁軟喉型號的產品說明書
Product catalogue of the flexible gas tubing containing the model number
- (2) 氣體接駁軟喉的繪圖，須顯示該氣體接駁軟喉的尺寸、直徑、壁厚及接駁配件詳細情況
Drawing of the tubing, including length, diameter, thickness, detail of fitting
- (3) 製造商的簡介包括公司概況、生產國家及工廠的詳細地址，若有其它物料供應商或承辦商亦須提供
Brochure of the manufacturer and material vendors or contractors, if any, including information on company profile, country of manufacture and address of works, etc.
- (4) 氣體接駁軟喉的生產規格及國際標準，在有需要時須向本署提供該生產規格及國際標準
Specification and standard of manufacture of the tubing. A copy of the specification / standard shall be made available upon request
- (5) 製造商的品質管理體系核證（例如 ISO 9000）的證書正本或核證副本
Original or certified true copy of the Quality Management System Certificate for the manufacturer's works, e.g. ISO 9000 or equivalent issued by a recognized Certification Body
- (6) 製造商的其它物料供應商或承辦商的品質管理體系核證（例如 ISO 9000）的證書正本或核證副本
Original or certified true copy of the Quality Management System Certificate for the manufacturer's material vendor and / or contractor, e.g. ISO 9000 or equivalent issued by a recognized Certification Body
- (7) 認可核證機構簽發有關氣體接駁軟喉的類型測試證書的正本或核證副本
Original or certified true copy of type-test certificate issued by a Recognized Certification Authority (RCA)
- (8) 製造商草擬的安裝說明書
Installation Instructions by manufacturer
- (9) 製造商與氣體接駁軟喉進口商的伙伴關係，製造商對其進口香港的氣體接駁軟喉提供有關支援的聲明
Statement by the manufacturer on the partnership between the manufacturer and the importer, and the manufacturer's support for their products in Hong Kong
- (10) 製造商作出對進口香港的氣體接駁軟喉能符合 GU15 批准要求（包括批准前條件及批准後條件）的聲明
Declaration of compliance with GU15 requirements including listing conditions (pre-listing and post-listing conditions) by manufacturer
- (11) 進口商或本地製造商作出其於本地氣體行業的地位、能力及已安排由註冊氣體工程承辦商對氣體接駁軟喉客戶提供技術支援的陳述（請附上公司架構圖及商業登記證副本）
Statement by importer or local manufacturer stating its capability and standing as a part of the local gas industry, the technical support which will be provided by a Registered Gas Contractor on the product to buyers (please submit company organization chart and copy of Business Registration Certificate)

- (12) 進口商或本地製造商作出對進口香港的氣體接駁軟喉能符合 GU15 批准要求 (包括批准前條件及批准後條件) 的聲明
Declaration of compliance with GU15 requirements including listing conditions (pre-listing and post-listing conditions) by importer or local manufacturer
- (13) 進口商或本地製造商草擬的「補救措施手冊」
Manual of Remedial Measures by importer or local manufacturer
- (14) 在氣體接駁軟喉上的標記或標籤
Proposed marking or labeling
- (15) 氣體接駁軟喉的樣本
Sample of the flexible gas tubing

(註：以上資料如有不全或錯漏，可能導致處理申請延誤)

(Note: Incomplete or erroneous information pertaining to the above may cause delay in processing application)

第四部分 聲明

Section 4 Declaration

本公司作為進口商 / 本地製造商*，謹此聲明此申請表及所有隨本氣體接駁軟喉批准申請的附件所呈報的資料均屬真確，並承諾遵守工作守則氣體應用指南之十五「**商業用氣體接駁軟喉**」的所有規定。

We, as importer / local manufacturer*, declare that the information given in this form and in any documents attached to our application for approval of flexible gas tubing is true and correct and pledge to comply with all the requirements on the Code of Practice GU15 - “**FLEXIBLE GAS TUBING FOR COMMERCIAL APPLICATIONS**”

Authorized Signature 授權人簽署 : _____

Name 姓名 : _____

Title 職位 : _____

Date 日期 : _____

<p>Company Chop 公司蓋印</p>

*刪去不適用者 delete where not applicable