

Document
Number

KGS 2025 - 048

Factory Registration Guide

for Foreign Manufacturers of Gas Product



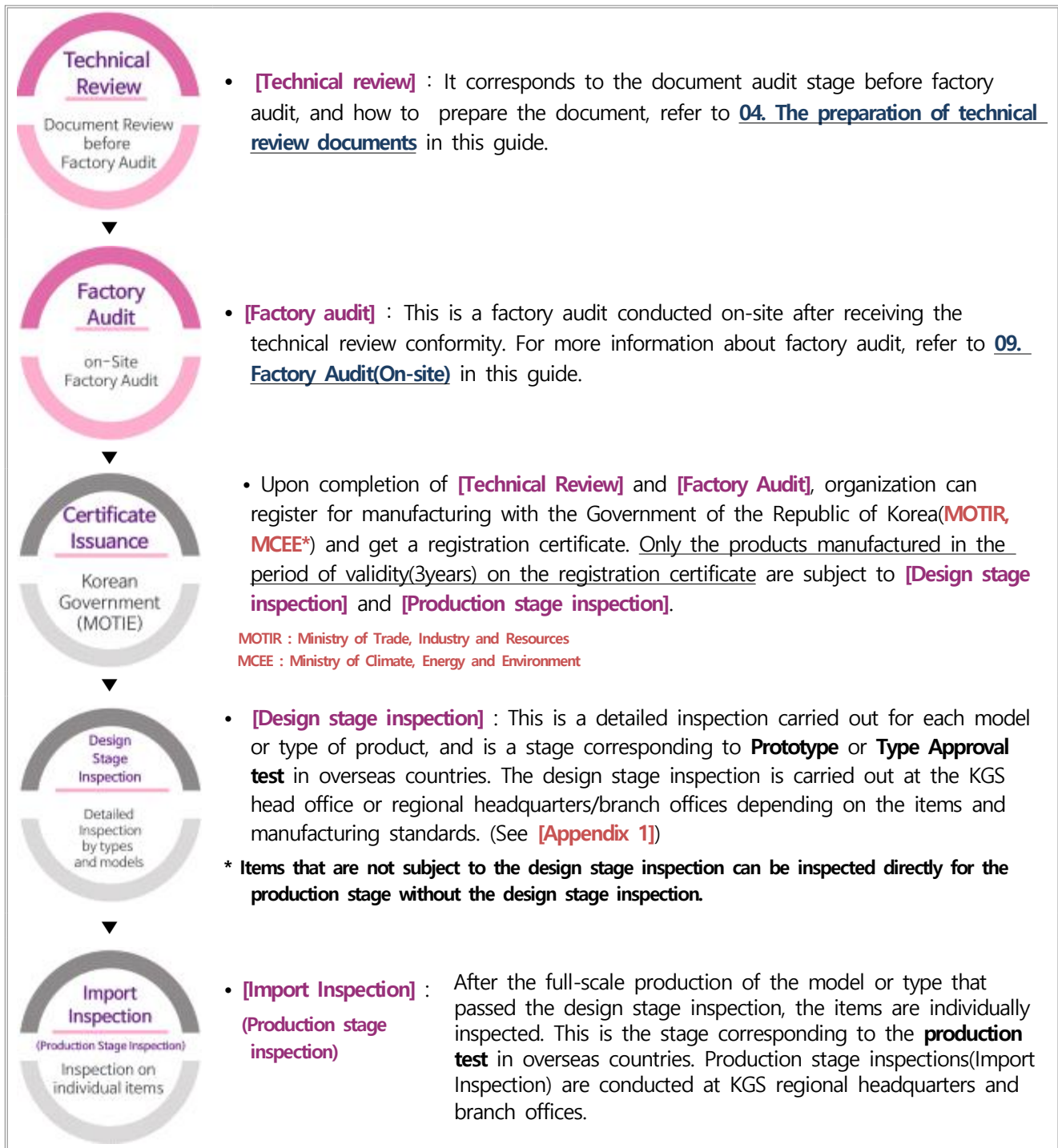
KGS

KOREA GAS SAFETY CORPORATION

Factory Auditing Department

Dec. 2025.

01. Flow Chart



- In order to export gas-related products manufactured in foreign countries to Korea, organization must go through the above five processes. (However, some products do not have a design stage inspection - Reference: ***[Appendix 1] Design Stage Inspection objects**)
- Among these processes, Korea Gas Safety Corporation(KGS) Factory Audit department is in charge of **[Technical Review]** and **[Factory Audit]**.

02. Factory Registration Objects

- Among gas-related products manufactured in foreign countries, objects in the table as below are subject to Technical Review and Factory Audit. Gas-related products are classified into **[Cylinders, etc.]**, **[Gas Appliances]** and **[Hydrogen Appliances]**

[Cylinders, etc.] : Cylinders, Refrigerator, Specified Equipment subject to the High Pressure Gas Safety Control Act

[Gas Appliances] : Gas Appliances subject to the Safety Control and Business Act of Liquefied Petroleum Gas

[Hydrogen Appliances] : Hydrogen Appliances subject to 'Hydrogen Act'(Economic Promotion and Safety Control of Hydrogen Act)

[Cylinders, etc.] The Article 5-2 of the Enforcement Decree of the High-Pressure Gas Safety Act Products for using 'Compressed gas with gauge pressure of 1 MPa or more or liquefied gas with gauge pressure of 0.2 MPa or more' at used temperature	[Gas Appliances] The Enforcement Rules [Annex 3] Safety Control and Business Act of Liquefied Petroleum Gas Products for using 'fuel gas'	[Hydrogen Appliances] The Article 2 of the 'Hydrogen Act' Product for Hydrogen production • fill • storage
1. Cylinders(internal volume ≥ 300mℓ) 2. Cylinder Accessories(Valves, Safety Valves) 3. Storage Tanks 4. High-Pressure Gas Tanks Fixed on Vehicles 5. Pressure Vessels(Pressure vessels whose value of multiplying design pressure(MPa) and volume(m ³) exceeds 0.004 as the pressure or design pressure is 0.2MPa or more for liquid gas at 35 °C and 1MPa or more for compressed gas at 35 °C) 6. Emergency Cut-off Devices for High-pressure Gases 7. Safety Valves for High-pressure Gases 8. Valves for toxic gas piping(Acrylonitrile, acrylaldehyde, sulfur dioxide, ammonia, carbon monoxide, carbon disulfide, fluorine, chlorine, methane bromide, methane chloride, propylene chloride, ethylene oxide, hydrogen cyanide, hydrogen sulfide, monomethylamine, dimethylamine, trimethylamine, benzene, phosgene, hydrogen iodide, hydrogen bromide, hydrogen chloride, hydrogen fluoride, mustard gas, algin, monosilane, disilane, diborane, hydrogen selenide, phosphine, monogerman and the gases whose LC50* is less among other gases) 9. Compressor, condenser, evaporator, or pressure vessels that comprises Specified Equipments for Refrigerator (excluding Integrated Refrigerator)	1. Pressure Regulators 2. Automatic Shut-off Devices for Gas Leakage 3. Filters for Governor Stations (Excluding built-in Parts of Governor Stations) 4. Governors for Underground Use 5. Hoses for Gases 6. Valves for pipes (ball valve and glove valve only) 7. Cocks (Fuse cock, Concentric cock, Nozzle cock for Cast Burner, Nozzle cock for Commercial Gas Burning Appliances only) 8. Joints for Pipes 9. Forced Mixing Type Gas Burners 10. Gas Burning Appliances(The gas burning appliances among combustion devices that a gas burner is useable in their structure and whose gas consumption is 232.6 kW (200,000 kcal/h or less)) 11. Multifunctional Gas Safety Meters 12. Loading Arms 13. Multifunctional boilers (Gas Stirling Engine Heat and Power Boilers)	1. Gas Fuel Cells (Excluding for vehicles) 2. Water Electrolysis Hydrogen Generator 3. Hydrogen Generators Using Fuel Processing Technologies

***LC50**: The concentration of gas that kills more than one-half of the rats within 14 days if the gas is continuously exposed to the mature rat population for 1 hour in the atmosphere.

- Some items can be exempt from Factory Audit. Please refer to **[Appendix 2]** for exemption conditions.
- Even if the conditions for exemption from Factory Audit are met, there are cases in which **Design Stage Inspection** and **Production Stage Inspection** are necessary.

03. KGS CODE & Acceptable Foreign Codes/Standards

- KGS CODE is a detailed standard to manufacture and inspect gas-related products made in Korea.
- Manufacturing Registration of foreign factories is possible with KGS CODE, which is a Korean standard, or **[Acceptable Foreign Codes/Standards]** recognized by KGS CODE.

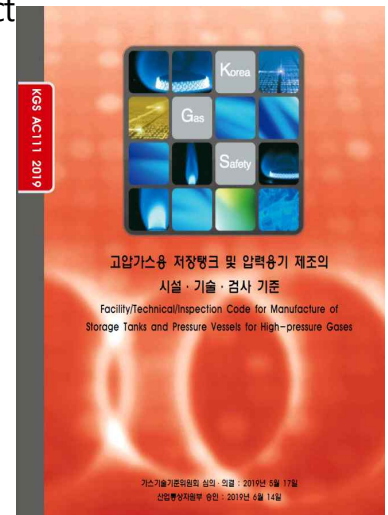
-For classification of KGS CODE by items, please refer to

[Annex 3-1]:[Cylinders, etc.] , **[Appendix 3-2]:[Gas Appliances]** , **[Appendix 3-3]:[Hydrogen Appliances]**

-The **Korean version** of KGS CODE can be viewed and downloaded from www.kgscode.or.kr.

-The **English version** of KGS CODE should be purchased on below web-site.

<https://cyber.kgs.or.kr/kgscode.KgscodeEng02use.introduce.ex.do>



- **[Acceptable Foreign Standard]** and **[Authorized Inspection Agency]** recognized in **section 1.3.2 of the KGS CODE** for each items are marked.

Table 1.3.1.2 Acceptable Codes and Standards and Authorized Inspection Agencies for Foreign Pressure Vessels <Revised August 13, 2012, May 8, 2015>

Acceptable Standard	Authorized Inspection Agency
ASME, SEC. VIII ASME B31.3 (restrictive to tubular reactor and tubular air cooler)	Authorized Inspection Agencies (AIA) registered with NBBI
PED (Pressure Equipment Directive)	Notified Bodies registered with EC (European Commission)
High-Pressure Gas Safety Security Law (Japan)	Nuclear and Industrial Safety Agency of MITI, High-Pressure Gas Security Association
API (restrictive to direct-fired heat exchangers and flat-bottomed storage tanks) <Newly established on June 29, 2009>	
Other standards accepted by the Minister of Trade, Industry and Energy	Inspection agencies accepted by the Minister of Trade, Industry & Energy

1.3.2 Registration standard for manufacturing of foreign pressure vessels <Revised on August 13, 2014>

- Even if a manufacturer applies for manufacturing registration with **[Acceptable Foreign Standard]**, basic matters (Equipments standards, Things not in foreign standards, etc.) shall follow the KGS CODE.
- If there is no **[Acceptable Foreign Standard]**, only KGS CODE can be accepted.

- If **[Authorized Inspection Agency]** is specified, the relevant authorized inspection agency shall participate in the manufacturing / inspection process. After passing the Factory Audit, in the production stage inspection, a report issued by **[Authorized Inspection Agency]** is required for articles specified in **Section 4.5.2.1 of the relevant KGS CODE**.

4.5.2 Partial omission of inspection

4.5.2.1 Manufacturing registration products such as foreign vessels

In case acceptance certificates (Inspection certificate issued by the manufacturer for direct fired heat exchanger produced under the API standard, inspection certificate issued by the manufacturer or unrelated inspection institution for flat bottomed storage tank produced under the API standard) issued by an authorized inspection agency in conformity to Table 1.3.1.2 is submitted for pressure vessels manufactured by a person who has registered for manufacturing of foreign vessels in accordance with the Act, Article 5-2, Clause 1, the inspection items which may be omitted in accordance with the Enforcement Regulation, Article 38, Clause 4-1 are as follows.

<Revised on August 13, 2012, May 8, 2015>:

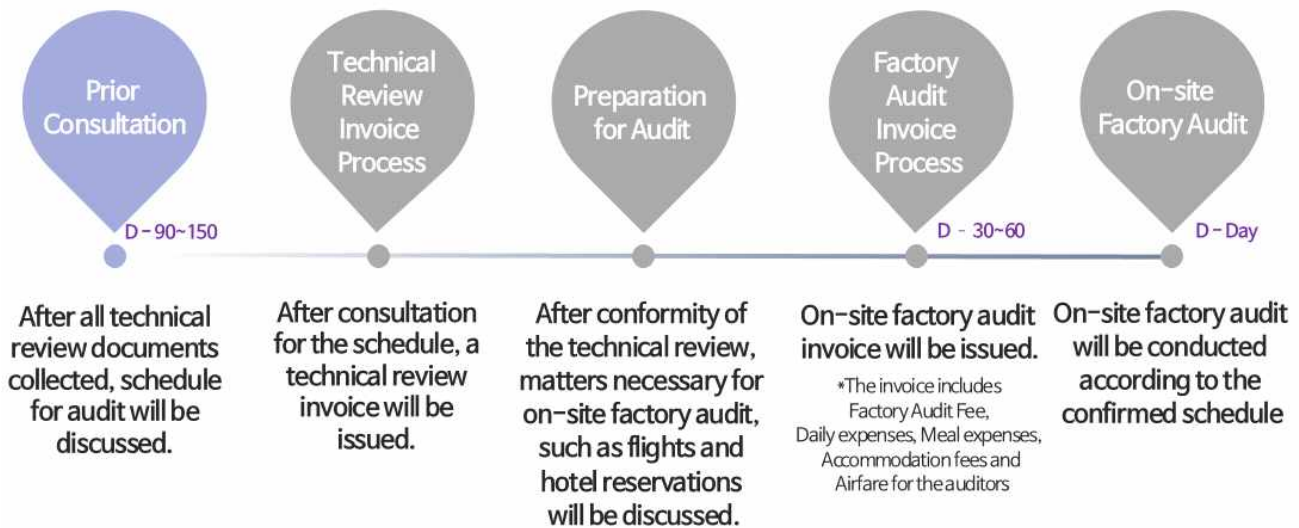
- (1) Material inspection (base metals and welds)
- (2) Weldability inspection
- (3) Nondestructive inspection
- (4) Pressure-proof test <Revised on July 11, 2016>

-Example) **PED Module D · H**, etc. are not suitable because factory itself makes a report on behalf of **[Authorized Inspection Agency]**.

04. Technical Review Documents Preparation

- In order to apply to Technical Review, you should prepare required documents.
Please refer to **[Appendix 4-1]:[Cylinders, etc.]** , **[Appendix 4-2]:[Gas Appliances]**,
[Appendix 4-3]:[Hydrogen Appliances]
 - All documents must be in Korean or English.
 - The required documents for Technical Review can be submitted to audit team leader's e-mail after the audit team is assigned.

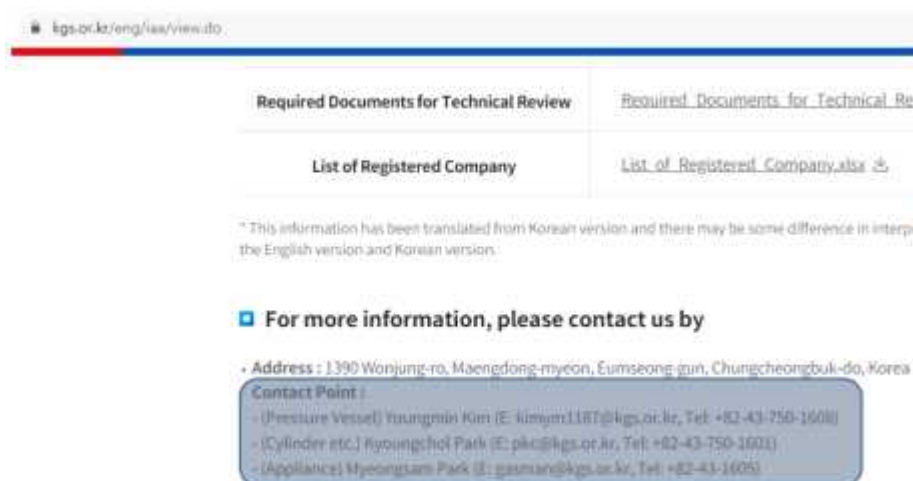
05. Prior Consultation



- Once the Technical Review documents have been prepared, consultation on the Factory Audit Schedule should be started. This step must be done at least 90 days earlier than the desired Factory Audit date.
- Prior consultation can be conducted by email or phone. Email and phone information can be found at the bottom of below webpage. (E-mail is recommended)

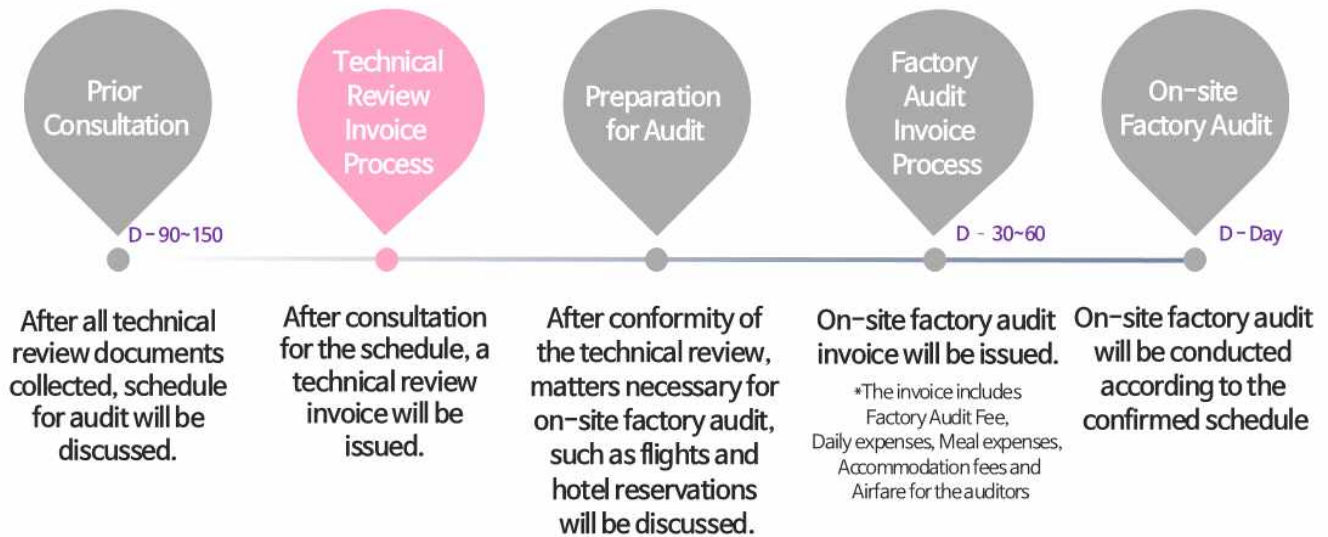
<https://www.kgs.or.kr/eng/iaa/view.do>

-Sometimes, the person in charge may have changed, so please check it on the webpage.



- For the number of audit days depending on the type of audit, refer to **11. Initial, Renewal, Alteration, Re-Audit** of this guide.
- The number of audit days may be adjusted depending on the quantity of items and **whether or not to visit sub-contractor (Audit on-site for sub-contractor is principle).**

06. Technical Review Invoice Process

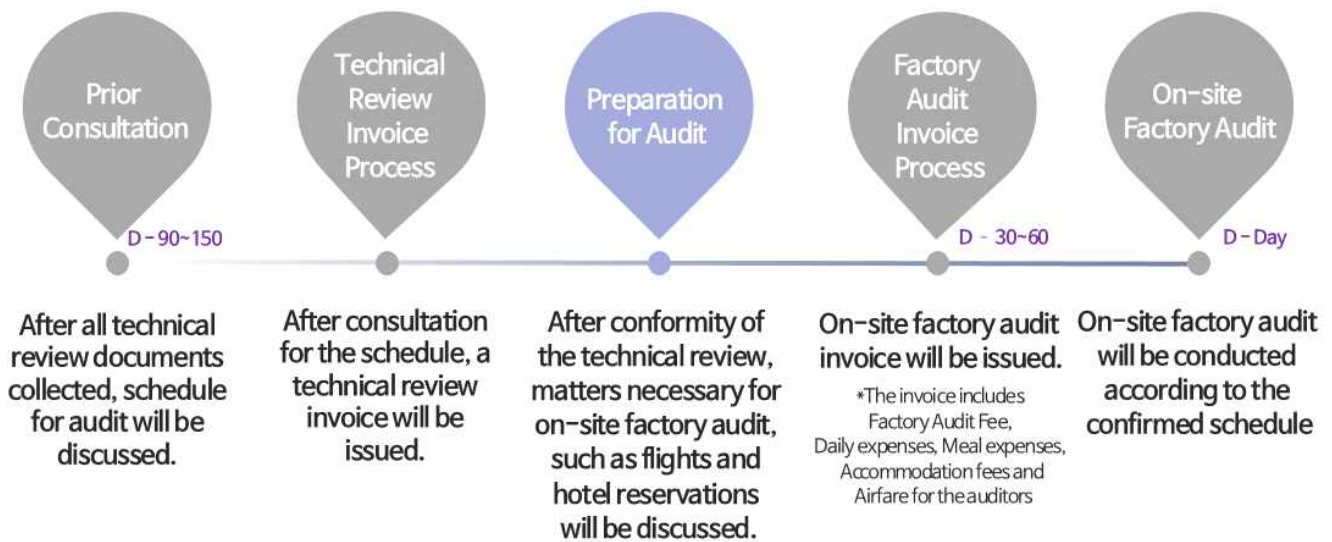


- After the prior consultation, an audit team leader will be assigned. The assigned audit team leader will contact manufacturer by email and send a technical review invoice.
- The fee required for Technical Review can be paid in KRW or USD. Please let us know in which currency you will pay.
- The fee required for Technical Review is in accordance with the KGS Regulation.
[Regulations on the expenses of performing work, such as Technical review etc]

	Classification	Basic Fee(KRW)
Technical Review	Classification, Code is 4 or over	5,366,000
	Classification, Code is 3 or under	3,834,000

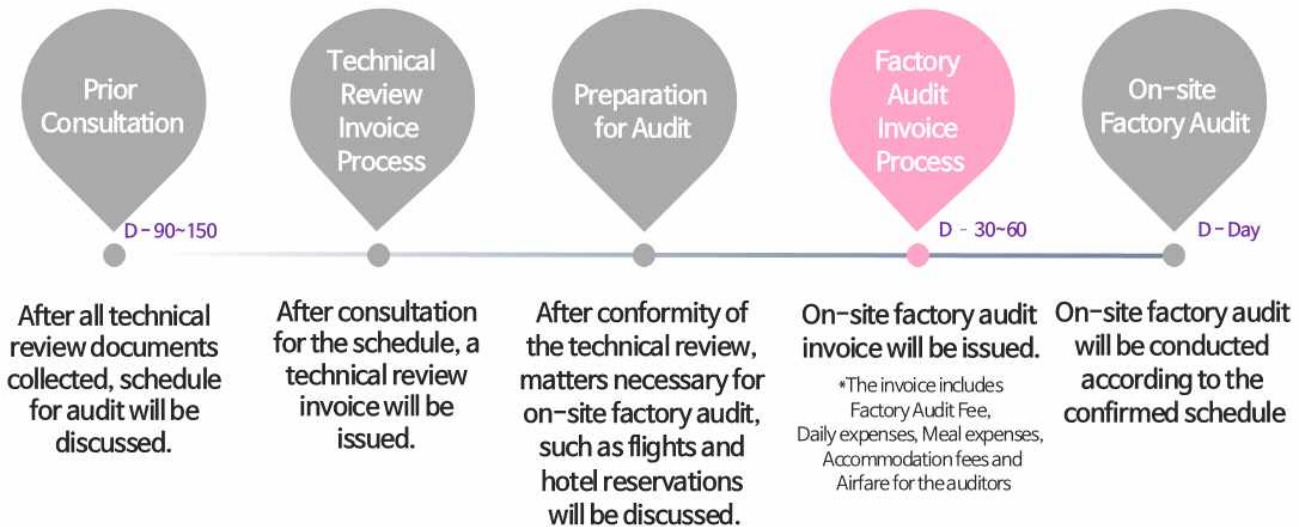
- When payment of the invoice is confirmed, the technical review is started, and the results are classified as follows.
 - [Conformity]** : If the submitted documents meet the requirement of registration, it is processed as conformity.
 - [Supplement Notice]** : If the submitted documents are insufficient or not suitable for the registration requirement, supplement notice will be given and additional documents for incompleteness must be submitted within a specified period.
 - [Non-conformity]** : If there is no complement after two times supplement notice, it will be processed as final non-conformity and all documents for application will be returned (technical review fee is non-refundable)
- Payment must be made by the due date indicated on the invoice, otherwise it may affect the factory audit schedule.

07. Preparation for Audit



- After getting the technical review **[Conformity]** result, manufacturer needs to prepare the items necessary for the local factory audit.
 - Interpretation, local transportation, hotel reservation, etc.
 - Visiting plan of sub-contractor, etc. (When it is determined that a subcontractor visit is necessary)
 - Factory Audit data (Technical review submission documents + Equipment calibration reports + Quality related records, etc.)

08. Factory Audit Invoice Process



- The factory audit fees are in accordance with the KGS regulations [Regulations on the expenses of performing work, such as Technical review etc]
-It can also checked on the web page.
<https://www.kgs.or.kr/eng/iaa/view.do>
- The daily expenses, meal expenses, and accommodation fees for the auditor are in accordance with the KGS regulations [Travel expenses regulations].
-The airfare will be charged at the time of booking.
- The factory audit invoice includes:

-Factory Audit Fee

-Daily expenses & meal expenses & accommodation fees, airfare for the auditors

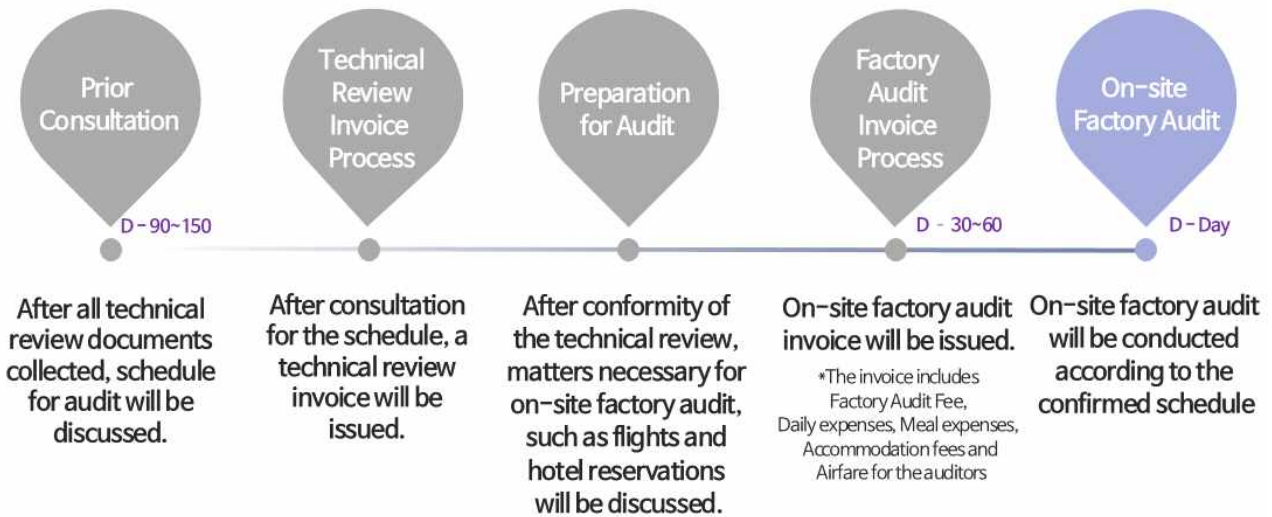
 KOREA GAS SAFETY CORPORATION				
INVOICE(Factory Audit)				www.kgs.or.kr
MFG No.	00000000	Issued Date (dd-mm-yy)	24-Mar-20	
Applicant Company Name		Company Name		
ATTN : Name				
Address : Address				
Phone : +00 0000 0000				
Details :				
Audit Schedule :		20~24, Apr, 2020	(Working days: 3 days)	
Description	Item	Application Code	Quantity	Sub-total
Factory Audit Fees	1. Pressure Vessel (Heat exchanger)	1&2. ASME Sec.VIII Div1,Div2	4	USD 12,039
	2. Pressure Vessel (Drum, Tower, Reactor, Others)			
Incidental Expenses	Daily expenses, etc.	-	3 Auditors	USD 14,055
(Applied exchange rate : \$ 1 = ₩ 1270 , 23-Mar-20)				
* The applicant shall bear the remittance fees that occurred by the transfer fees. (e.g. Sender's charges, Interbank commission)				
Total Amount : USD				26,095

- The audit quantity is calculated by multiplying the application code quantity with classification quantity according to **[Appendix 3-1] : [Cylinders, etc.]** , **[Appendix 3-2] : [Gas Appliances]** , **[Appendix 3-3] : [Hydrogen Appliances]**
- Ex1) If pressure vessels(Heat Exchanger) and pressure vessels(Drum, Tower, Reactor, Others) are subject to audit as ASME Sec.VIII Div.1 and ASME Sec.VIII Div.2 (2 codes each), the total quantity becomes **4**.

[Appendix 3-1]	Classification	CODE
22-1	Pressure Vessels(Heat Exchanger)	ASME Sec.VIII Div.1 ASME Sec.VIII Div.2
22-2	Pressure Vessels(Drum, Tower, Reactor, Others)	ASME Sec.VIII Div.1 ASME Sec.VIII Div.2

- In addition to processing the invoice, manufacturer should fill out the application form for the Factory Audit and e-mail to audit team leader.
- Payment must be made by the due date indicated on the invoice, otherwise it may affect the factory audit schedule.

09. Factory Audit (On-site)



- The general local factory audit procedure is as follows.

[Opening Meeting]	[Factory Tour]	[Audit]	[Midterm Meeting]	[Closing Meeting]
<KGS> Introduction Check the subject, scope and standards of audit Check audit schedule Explanation of audit result (Conformity, Minor non-conformity, Major non-conformity) Confidentiality Video About KGS Q&A <Manufacturer> Introduction of Company, participants, major products Safety Precautions Q&A etc	It is the order to grasp the overall condition of the factory, such as product manufacturing method, process order, and scale, before the Factory Audit begins. Manufacturer can guide KGS team in the order of manufacturing and inspection from the time the raw materials or parts are received.	Proceeds according to the [Factory Audit Plan] sent in advance. * The audit plan may change depending on local circumstances -Manufacturing technology standards Check that the requirements and related procedures are appropriate for the manufacturing, testing and inspection process, and that the material, design, manufacturing and testing and inspection personnel and procedures are appropriate. -Manufacturing and inspection equipments Check the capability and possession of equipments used in the manufacturing, testing and inspection process, and check the management and calibration status according to the procedures -Quality Control System Operation and management of processes necessary for quality control in relation to manufacturing, testing and inspection, and check if necessary measures for monitoring, measurement and analysis and improvement are implemented.	This meeting is to inform the audited manufacturer of identified nonconformities and recommendations and to give manufacturer time to find evidence to disprove	Reconfirmation of the subject, registration standards, types and scope of audit Summary of findings and announcement of audit results Description of the proceedings after the audit results Q & A and confidentiality reassurance

- In the case of sub-contractor, audit (on-site) is the principle but if it is impossible, it can be replaced by audit (on-paper).

-In the case of an sub-contractor that is registered with **[Overseas Supplier Quality Control Registration]**, once the sub-contractor submits a [Supplier Quality Control Registration certificate], the audit for the sub-contractor is exempted.

- The results of the Factory Audit are classified as follows.

[Conformity] : Manufacturing registration is possible with the Korean government

[Minor Non-conformity] : When any found facts that do not meet the requirements of KGS-related regulations and application manufacturing standards is currently mild but there is a possibility of seriously affecting the quality in the future -> **Re-audit (on paper)*** is necessary.

***However, if corrective action is not completed within 3 months, it will be converted to Re-audit (on-site).**

[Major Non-conformity] : When omission of KGS-related regulations, application manufacturing standard requirements and serious defects have been found, or when many minor nonconformities have seriously affected the quality -> **Re-audit (on-site)**** is required

***Re-audit(on-site) will be conducted only for corrective action of nonconformities. However, if the corrective action is not completed within one year, the scope of the audit will be expanded to the whole (proceeds in the same procedure as Renewal audit).**

***Re-audit(on paper) : Corrective actions for nonconformities can be reviewed by document(e-mail)**

****Re-audit(on-site) : Corrective actions for nonconformities can be completed through local factory re-audit**

-Both document re-audit and on-site re-audit will incur costs, which can also be checked on the web-site.

10. Korean government manufacturing registration (Cylinder etc.)

- After getting conformity result of Factory Audit, manufacturer can register with the Korean government(MOTIR).
- The required documents are as follows.
 - **[Initial Audit, Alteration Audit]**

1. Application Form for Manufacture Registration or Manufacturing Alteration Registration
2. Company Brochure or Catalog
3. Factory Audit Report (KGS will e-mail you after Factory Audit is completed)
4. Technical Review Result (KGS will e-mail you after Technical review is completed)
5. An existing original registration certificate (**Only Alteration Audit**)
6. Korea Revenue Stamp
 - 25,000 KRW (**Initial Audit**) / 15,000 KRW (**Alteration Audit**)
 - <https://www.e-revenuestamp.or.kr/>
 - Only Korean is possible to purchase. purchasing from Korea post office or online is possible

- **[Renewal Audit]**

1. Application Form for Manufacture Registration
2. Company Brochure or Catalog
3. Factory Audit report (KGS will e-mail you after Factory Audit is completed)
4. An existing original registration certificate
5. Korea revenue stamp
 - 25,000 KRW
 - <https://www.e-revenuestamp.or.kr/>
 - Only Korean is possible to purchase. purchasing from Korea post office or online is possible

- Please prepare and send the documents to the following address.

Resources Security Policy Division, Ministry of Trade, Industry and Resources, Government
Complex-Sejong, 402 Hannuri-daero, Sejong-si, 30118, Republic of Korea

(Woo Yuri, 044-203-5182, superb45@korea.kr)

10. Korean government manufacturing registration (Gas Appliances)

- After getting conformity result of Factory Audit, manufacturer can register with the Korean government(MOTIR).
- The required documents are as follows.
 - **[Initial Audit, Alteration Audit]**

1. Foreign Gas Appliance Manufacture Registration or Alteration Application form
2. Company Brochure or Catalog
3. Factory Audit Report (KGS will e-mail you after Factory Audit is completed)
4. Technical Review Result (KGS will e-mail you after Technical review is completed)
5. An existing original registration certificate (**Only Alteration Audit**)
6. Korea Revenue Stamp
 - 30,000 KRW (**Initial Audit**) / 15,000 KRW (**Alteration Audit**)
 - <https://www.e-revenuestamp.or.kr/>
 - Only Korean is possible to purchase. purchasing from Korea post office or online is possible

- **[Renewal Audit]**

1. Foreign Gas Appliance Manufacture Registration Application form
2. Company Brochure or Catalog
3. Factory Audit report (KGS will e-mail you after Factory Audit is completed)
4. An existing original registration certificate
5. Korea revenue stamp
 - 30,000 KRW
 - <https://www.e-revenuestamp.or.kr/>
 - Only Korean is possible to purchase. purchasing from Korea post office or online is possible

- Please prepare and send the documents to the following address.

Resources Security Policy Division, Ministry of Trade, Industry and Resources, Government
Complex-Sejong, 402 Hannuri-daero, Sejong-si, 30118, Republic of Korea

(Woo Yuri, 044-203-5182, superb45@korea.kr)

10. Korean government manufacturing registration (Hydrogen Appliances)

- After getting conformity result of Factory Audit, manufacturer can register with the Korean government(MCEE).
- The required documents are as follows.
 - **[Initial Audit, Alteration Audit]**

1. Foreign Hydrogen Appliance Manufacture Registration or Alteration Application form
2. Company Brochure or Catalog
3. Factory Audit Report (KGS will e-mail you after Factory Audit is completed)
4. Technical Review Result (KGS will e-mail you after Technical review is completed)
5. An existing original registration certificate (**Only Alteration Audit**)
6. Korea Revenue Stamp
 - 25,000 KRW (**Initial Audit**) / 15,000 KRW (**Alteration Audit**)
 - <https://www.e-revenuestamp.or.kr/>
 - Only Korean is possible to purchase. purchasing from Korea post office or online is possible

- **[Renewal Audit]**

1. Foreign Hydrogen Appliance Manufacture Registration Application form
2. Company Brochure or Catalog
3. Factory Audit report (KGS will e-mail you after Factory Audit is completed)
4. An existing original registration certificate
5. Korea revenue stamp
 - 25,000 KRW
 - <https://www.e-revenuestamp.or.kr/>
 - Only Korean is possible to purchase. purchasing from Korea post office or online is possible

- Please prepare and send the documents to the following address.

Energy Safety and Efficiency Division, Ministry of Climate, Energy and Environment,
402 Hannuri-daero, Sejong-si, 30118, Republic of Korea

(Kang Eunjoo, 044-203-3990, ejkang70@korea.kr)

11. Initial • Renewal • Alteration • Re-Audit

[Initial Audit] : This is the case when you apply for the Factory Audit for the first time or a location of the factory has changed.

(Basic audit days - 3Man • 3Day, it can be changed depending on the number of classification and sub-contractors. in case of **[Gas Appliances]**, refer to **[Appendix 3-2]**)

[Renewal Audit] : This audit is to extend the validity period of registration, and applicants must let KGS know their intention to Renewal Audit at least six months before the expiration date of the existing validity period. (E-mail to relevant person.

Please refer to KGS web-site) (Basic audit days – same as **[Initial Audit]**)

[Re-Audit (On-site)] : This is re-visiting audit after being judged to be major-nonconformity. The scope of the audit is limited to corrective actions for nonconformities. corrective actions & the application for re-audit must be completed within 1 year of notification of nonconformity. If exceeds, registration is deemed to be abandoned. (Basic audit days - 4Man•Days)

[Re-Audit (on paper)] : This audit is conducted by documents(e-mail) after being judged to be minor-nonconformity. The scope of the audit is limited to corrective actions for nonconformities.

corrective actions & the application for re-audit must be completed within 3 months of notification of nonconformity. If exceeds, **[Re-Audit (On-site)]** is required. If 1 year exceeds, registration is deemed to be abandoned.

[Alteration Audit] : This audit is to add or change items or Codes. **(Existing validity period is not extended)** (Basic audit days - 6Man • Days)

※ In the case of simple change (company name, representative's name), technical review and factory audit are not required, only the following documents must be prepared and sent to **MOTIR or MCEE**.

1. Application form for Manufacturing Alteration Registration or Foreign Gas Appliance Manufacture Registration Alteration Declaration Form or Foreign Hydrogen Appliance Manufacture Registration Alteration Declaration Form
2. Documents proving alteration (An official letter of manufacturer, etc.)
3. Korea revenue stamp
(**[Cylinders, etc.]** : 15,000 KRW, **[Gas appliances]** & **[Hydrogen appliances]** : N/A)
<https://www.e-revenuestamp.or.kr/> (Only Korean is possible to purchase, purchasing from Korea post office or online is possible)
4. An existing original registration certificate

[Cylinders, etc.], [Gas Appliances] : Ministry of Trade, Industry and Resources (MOTIR)
Resources Security Policy Division, Ministry of Trade, Industry and Resources, Government Complex-Sejong,
402 Hannuri-daero, Sejong-si, 30118, Republic of Korea
(Woo Yuri, 044-203-5182, superb45@korea.kr)

[Hydrogen Appliances] : Ministry of Climate, Energy and Environment (MCEE)
Energy Safety and Efficiency Division, Ministry of Climate, Energy and Environment, 402 Hannuri-daero,
Sejong-si, 30118, Republic of Korea
(Kang EunJoo, 044-203-3990, ejkang70@korea.kr)

[Appendix 1] : Classification of Design Stage Inspection Objects/Non-objects

	Factory Audit Objects		Department in charge
Design stage Inspection	[Cylinders, etc.] [Cylinder, Valve for Car]	Cylinders(including for car)	KGS Technical Inspection & Advisory Service Division or KGS District Head Office (Branch)
		Cylinder Accessories(including for car)	KGS Gas Appliances Division
		Valves for Toxic Gas Pipes	KGS Gas Appliances Division
		Composite Pressure Vessels	KGS District Head Office (Branch)
	[Gas Appliances]	(All items subject to registration)	KGS Gas Appliances Division
	[Hydrogen Appliances]	(All items subject to registration)	KGS Institute of Hydrogen Safety Technology
Non-Design stage Inspection	[Cylinders, etc.]	Storage Tanks(Including LNG)	
		High-Pressure Gas Tanks Fixed on Vehicles	
		Pressure Vessels(Excluding Composite Pressure Vessels)	
		Specified Equipment for Refrigeration	
		Emergency Cut-off Devices for High-pressure Gases	
		Safety Valves for High-pressure Gases	

* contact point: can be found at the bottom of below webpage.

<https://www.kgs.or.kr/eng/icf/view.do>

[Appendix 2] : Exempt from Factory Audit

[Cylinders, etc.] High Pressure Gas Safety Control Act Enforcement Rule Article 9-2	1. imported for testing and R&D (only applicable to those Cylinders that are directly tested or researched and developed) 2. imported to be used by a foreign organization in Korea after completing the foreign country's inspection 3. imported by being attached to industrial machinery equipment 4. imported by a manufacturer or an importer as a sample 5. As cylinders imported for the purpose of importing high-pressure gas and returned after the high-pressure gas in the cylinder is exhausted, it should be inspected by a foreign inspection agency recognized by the Ministry of Trade, Industry and Resources in accordance with the inspection standard in Annex 10, Annex 10-2 and Annex 12 6. not manufactured in Korea as a filling of special high pressure gases. 7. for aerosol 8. imported for export purposes 8-2. Specified Equipments for Refrigerator (Except for Filling facilities, Storage facilities for liquefied petroleum gas according to the 「Safety Control and Business Act of Liquefied Petroleum Gas」, Attachments to gas supply facilities according to the 「Urban Gas Business Act」, High-pressure gas specific manufacturing facilities, High-pressure gas general manufacturing facilities and Storage facilities) and safety valves and valves for toxic gas piping imported from attached to specific facilities and refrigerators 9. Specified Equipments that are not manufactured in Korea for installation and use in hydrogen fuel charging facilities 10. Other cylinders, etc. that are recognized and announced by the Ministry of Trade, Industry and Resources for the difficulty in manufacture registration of foreign cylinders
[Gas Appliances] Safety Control and Business Act of Liquefied Petroleum Gas Enforcement Rule Article 17	1. tested by foreign inspection agencies recognized by the Ministry of Trade, Industry and Resources in accordance with the mutual recognition agreement between countries. 2. imported for testing or R&D* 3. imported for export purposes 4. imported to be used by a foreign organization in Korea after completing the foreign country's inspection 5. imported by being attached to industrial machinery equipment 6. imported by a manufacturer or an importer of gas appliances as a sample 7. recognized and announced by the Minister of Trade, Industry and Resources for the difficulty in manufacture registration of foreign gas appliances under Article 10 of the Act
Safety Control Standard of Liquefied Petroleum Gas Integrated Notice	1. Gas burners of the forced-mixing type pursuant to Item 9 of Annex Table 3 to the Regulation and combustion appliances pursuant to Item thereof (hereinafter collectively referred to in this Article as "combustion appliances"), limited to cases where the importer brings in no more than three units per year of combustion appliances of the same model manufactured by the same manufacturer. For this purpose, "per year" means the period from January 1 to December 31 of the relevant year, and the standard date for determining the import year shall be the date of import declaration. 2. Combustion appliances previously used abroad and imported by the person who used them overseas for the purpose of domestic use.
[Hydrogen Appliances] 'Hydrogen' Gas Enforcement Rule Article 27	1. tested by foreign inspection agencies recognized by the Ministry of Climate, Energy and Environment in accordance with the mutual recognition agreement between countries. 2. imported for testing or R&D* 3. imported for export purposes 4. imported to be used by a foreign organization in Korea after completing the foreign country's inspection 5. imported by a manufacturer or an importer of gas appliances as a sample 6. recognized and announced by the Ministry of Climate, Energy and Environment for the difficulty in manufacture registration of foreign gas appliances under Article 38 of the Act

***It means that the relevant gas appliances itself are directly tested or researched and developed.**

[Appendix 3-1] Classification of products subject to registration [Cylinders, etc.]

*Reference of Code number : (Korean Version) www.kgscode.or.kr

(English Version) <https://cyber.kgs.or.kr/kgscode.eng.index.do>

구분 No.	용기 및 부속품 Cylinders(including cylinder valves)				코드 번호 Code No.	코드명 Code
	분류 Classification	상세분류 sub-Classification				
1	이음매없는용기 Seamless Cylinders	강제 Steel Seamless Cylinder	스피닝타입 Spinning Type	AC212	고압가스용 이음매없는 용기 Seamless Cylinders for High-Pressure Gases	
2			빌렛타입 Billet Type			
3			딥드로잉타입 Deep-Drawing Type			
4		알루미늄합금제 Aluminum Seamless Cylinder	스피닝타입 Spinning Type			
5			빌렛타입 Billet Type			
6			딥드로잉타입 Deep-Drawing Type			
7	용접용기 Welded Cylinders	내용적 500ℓ미만 (internal volume < 500ℓ)		AC211	고압가스용 용접용기 Welded Cylinders for High-Pressure Gases	
				AC214	아세틸렌용 용접용기 Welded Cylinders for Acetylene	
8		내용적 500ℓ이상 (internal volume ≥ 500ℓ)		AC312	이동식부탄연소기용 용접용기 Welded Cylinders for Portable Gas Stoves	
				AC215	용기내장형 액화석유가스 난방기용 용접용기 Welded Cylinders for LP Gas Cabinet Heaters	
9	초저온가스용 용기 Cryogenic Gas Cylinders	내용적 500ℓ미만 (internal volume < 500ℓ)		AC213	초저온가스용 용기 Cryogenic Gas Cylinders	
10		내용적 500ℓ이상 (internal volume ≥ 500ℓ)				
11	자동차용 용기 Cylinders for Vehicles	액화천연가스 자동차용 Cylinders for LNG Vehicles	내용적 500ℓ미만 (internal volume < 500ℓ)	AC416	액화천연가스자동차용 용기 LNG Vehicles	
12	납땜임 또는 접합용기 Soldered or Jointed Cylinders			AC311	고압가스용 납땜임 또는 접합용기 Soldered or Jointed Cylinders for High-Pressure Gases	

13	복합재료용기 Composite Cylinders	강제라이너 Steel Liner	AC413 AC417	액화석유가스용 복합재료용기 Composite Cylinders for LP Gas 연료전지자동차용 압축수소 용기 Compressed Hydrogen Gas Cylinders for Fuel Cell Vehicles
14		알루미늄합금라이너 Aluminum Alloy Liner	AC411 AC413 AC417	고압가스용 알루미늄합금라이너 복합재료용기 Aluminum Alloy Liner Composite Cylinders for High-pressure Gases 액화석유가스용 복합재료용기 Composite Cylinders for LP Gas 연료전지자동차용 압축수소 용기 Compressed Hydrogen Gas Cylinders for Fuel Cell Vehicles
15		비금속라이너 Non-Metal Liner	AC413 AC417 AC418 AC419	액화석유가스용 복합재료용기 Composite Cylinders for LP Gas 연료전지자동차용 압축수소 용기 Compressed Hydrogen Gas Cylinders for Fuel Cell Vehicles 고압가스용 비금속라이너 복합재료용기 Nonmetal Liner Composite Cylinders for High-pressure Gases 압축수소 운송용 비금속라이너 Nonmetal Liner Composite Cylinders for Transportation of Compressed Hydrogen
16	재충전금지용기 Non-refillable Cylinders	-	AC216	고압가스용 재충전금지 용기 Non-refillable Cylinders for High-pressure Gases
17	용기부속품 Cylinder Accessories(Valves)	일반용 Cylinder Accessories for High-pressure Gases 용기내장형 액화석유가스난방기용 Cylinder Valves for LP Gas Cabinet Heaters 액화석유가스용(내용적 30ℓ미만 및 내용적 50ℓ초과 용기용) LP Gas Cylinder Valves for cylinder with internal volume < 30ℓ or > 50ℓ 차단기능형 액화석유가스용(부착되는 용기가 내용적 30ℓ이상 50ℓ이하) LP Gas Cylinder Valves with Cut-off Function for cylinder with 30ℓ ≤ internal volume ≤ 50ℓ 과류차단형 액화석유가스용(부착되는 용기가 내용적 30ℓ이상 50ℓ이하) LP Gas Cylinder Valves with Overflow Cut-off Function for cylinder with internal volume < 30ℓ or > 50ℓ 액화석유가스자동차용 Cylinder Valves for LPG vehicles	AA311 AA314 AA315 AA312 AA313 AA320	고압가스용 용기부속품 Cylinder Accessories for High-pressure Gases 용기내장형 액화석유가스난방기용 용기밸브 Cylinder Valves for LP Gas Cabinet Heaters 액화석유가스용 용기밸브 LP Gas Cylinder Valves 차단기능형 액화석유가스용 용기밸브 LP Gas Cylinder Valves with Cut-off Function 과류차단형 액화석유가스용 용기밸브 LP Gas Cylinder Valves with Overflow Cut-off Function 액화석유가스자동차용 용기밸브 Cylinder Valves for LPG vehicles

	냉동용특정설비 (일체형 냉동기 제외) Specified Equipments for Refrigerator(excluding Integrated Refrigerator)			
	분류 Classification	상세분류 sub-Classification	코드 번호 Code No.	코드명 Code
18	냉동용 특정설비 Specified Equipment for Refrigeration	압축기 Compressors	AC112	냉동용 특정설비 Specified Equipment for Refrigeration
19		응축기 Condensers 증발기 Vaporizers 압력용기 Pressure Vessels		
	특정설비 Specified Equipment			
	분류 Classification		코드 번호 Code No.	코드명 Code
20	저장탱크 Storage Tanks		AC111	고압가스용 저장탱크 및 압력용기 Storage Tanks and Pressure Vessels for High-pressure Gases
21	차량에 고정된 탱크 High-Pressure Gas Tanks Fixed on Vehicles		AC113	고압가스용 차량에 고정된 탱크 High-Pressure Gas Tanks Fixed on Vehicles
22-1	압력용기(열교환기) Pressure Vessels (Heat Exchanger)		AC111	고압가스용 저장탱크 및 압력용기 Storage Tanks and Pressure Vessels for High-pressure Gases
22-2	압력용기(드럼, 타워, 반응기, 기타) Pressure Vessels (Drum, Tower, Reactors, Others)			
23	긴급차단장치 Emergency Cut-off Devices for High-pressure Gases		AA317	고압가스용 긴급차단장치 Emergency Cut-off Devices for High-pressure Gases
24	안전밸브 Safety Valves for High-pressure Gases		AA319	고압가스용 안전밸브 Safety Valves for High-pressure Gases
25	독성가스배관용밸브 Valves for Toxic Gas Pipes		AA318	독성가스배관용 밸브 Valves for Toxic Gas Pipes
26	기타용기 등 ETC.		-	-

[Appendix 3-2] Classification of products subject to registration [Gas Appliances]

- 9Man•Day
 - 6Man•Day
 - 4Man•Day : Incase of Initial Audit

Gas Appliances				Safety Devices				
	Classification	CODE No.	Name of CODE		Classification		CODE No.	Name of CODE
1	Forced Mixed Type Gas Burners	AB931	Forced Mixed Type Gas Burners	22	Pressure Regulators	LPG	AA434	Pressure Regulators for LP Gas
2	Gas Ranges	AB331	Gas Ranges	23			AA435	LP Gas Regulators for Vehicles
3	Gas Ovens	AB333	Gas Ovens	24			AA436	Pressure Regulators for LP Gas Cabinet Heaters
4	Gas Grills	AB335	Gas Grills	25			AA437	LP Gas Pressure Regulators for Welding and Cutting
5	Gas Oven Ranges	AB332	Gas Oven Ranges	26		LNG	AA431	Pressure Regulators for Urban Gas
6	Gas Rice Cookers	AB334	Gas Rice Cookers	27	Automatic Shut-off Device for Gas Leakage		AA632	Leak Alarmed Shut-off Device for Gases
7	Gas Water Heaters, Gas-Fired Central Heating Boilers, CF and BF Type of Gas Boilers, etc.	AB135	Gas Water Heaters	28			AA633	Automatic Shut-off Device for Gas Leakage
8		AB131	Gas-Fired Central Heating Boilers of Forced Supply and Forced Exhaust Types	29	Filters for Governor Stations		AA433	Filters for Governor Stations
9		AB133	CF(conventional flue) and BF(balanced flue) Type of Gas Boilers	30	Governors for Underground Use		AA432	Governors for Underground Use
10		AB231	Gas Heaters*	31	Hoses	High-pre ssure Hoses	AA531	High-pressure Rubber Hoses for Gases
11		AB134	Gas Cooling and Heating Appliances	32			AA532	High-pressure Rubber Hoses for Vehicles
12		AB232	Gas Cabinet Heaters	33			AA533	Non-metal Hoses for LP Gas Vehicles
13		AB933	Gas Clothes Driers	34		Low-pres sure Hoses	AA534	Polyvinyl-Chloride Hoses for Gases
		AB136	Multi-function boiler				AA535	Corrugated Stainless Steel Tubing for Gases
14	Cast-Iron Gas Burners	AB337	Cast-Iron Gas Burners	35			AA536	Rubber Hoses for Gases
15	Commercial Gas Burning Appliances	AB338	Commercial Gas Burning Appliances	36			AA537	Resin Hoses for Gases
16	Portable Butane Stoves, Butane Gas Burning Appliances, Portable, Propane Gas Stoves, etc.	AB336	Portable Butane Stoves	37	Valves for Pipes		AA331	Valves for Pipes
17		AB339	Butane Gas Burning Appliances	38			AA332	Fully Welded Ball Valves for Underground Use
18		AB341	Portable Propane Gas Stoves	39			AA333	Polyethylene Valves for Gases
19	AB932	Charcoal Stove Starters	40	AA335			Glove valves for Pipes	
20	Gas Burning Appliances	AB935	Gas Burning Appliances	41			AA336	Brass ball valves for Pipes
21	<Deleted>			42			AA334	Gas Cocks
				43	Cocks		AA231	Electric Insulation Joints for Gases
				44	Joints for Pipes		AA232	Electrofused Polyethylene Fittings for Gases
				45			AA233	Transition Fittings for Gases
				46			AA234	Quick Coupling Units for Gas Appliances
				47			AA235	Safety Couplings for LP Gas
				48			AA631	Multi-functional Gas Safety Meters
				49	Multi-functional Gas Safety Meters		AA236	Loading Arms for Gases
				50	Loading Arms			

* Gas heaters for livestock – 4Man*Day

[Appendix 3-3] Classification of products subject to registration [Hydrogen Appliances]

*KGS Code No. : (Korean Version) www.kgscode.or.kr

(English Version) <https://cyber.kgs.or.kr/kgscode.eng.index.do>

No.	Classification	KGS Code No.
1	Fuel Cells(Fixed)	AH371
2	Portable Fuel Cells	AH372
3	Water Electrolysis Hydrogen Generator	AH271
4	Hydrogen Generators Using Fuel Processing Technologies	AH171

※ If a **cylinder, pressure vessels, safety valve, etc.**(**[Cylinders, etc.]**) subject to the “High Pressure Gas Safety control Act(KOREA)” are included, the component must be manufactured by a company that has **completed factory registration and inspected by the relevant authorized inspection agency.**

[Appendix 4-1] Required Documents for Technical Review [Cylinders, etc.]

1. General

1.1. Company profile : Name of company and representative, factory address, products etc.

1.2. Qualification : Certificates for Manufacturing Codes (Standards) and Quality (where applicable)

1.3. Manufacturing items and process drawings for application :

The classification, manufacturing codes (standards), and process drawing which will be registered (see [Appendix 3-1])

1.4. Sub-Contractor : If the forming, mechanical test, heat treatment and NDT are conducted by sub-contractor, fill out the following table

※ in case of "Cylinders", Sub-contracting(out-sourcing) is **not possible**.

<Example of Sub-Contractors status>

Process of Sub-contractor	Company name	e-mail	Address	Distance from Your Company (Km)	Note
Forming	<i>AA Forming</i>	<i>AA@aa.com</i>	<i>1234 aaa St.</i>	<i>11</i>	<i>head, shell</i>
	<i>BB Forging</i>	<i>BB@bb.com</i>	<i>5678 bbb St.</i>	<i>22</i>	<i>except flange and boss</i>
	<i>CC Casting</i>	<i>CC@cast.com</i>	<i>9999 ccc St.</i>	<i>33</i>	<i>casting</i>
	<i>DD Bending</i>	<i>DD@dd.com</i>	<i>3838 ddd St.</i>	<i>44</i>	<i>Bending(U-Tube)</i>
Mechanical Test	<i>AA Mechanical Testing</i>	<i>AA@aa.com</i>	<i>1111 AA St.</i>	<i>44</i>	<i>tensile, bending, impact, hardness</i>
Heat treatment	<i>BB Heat-Treatment Co.</i>	<i>BB@bb.com</i>	<i>2222 BB St.</i>	<i>55</i>	<i>furnace, local</i>
NDT	<i>CC NDE Co.</i>	<i>CC@cc.com</i>	<i>3333 CC St.</i>	<i>66</i>	<i>RT, UT, MT, PT etc</i>

※ Required documents for sub-contractor registered in KGS can be replaced with [Overseas supplier registration Certificate].

2. Manufacturing & Inspection Equipment list

- A list of required equipment is prepared by referring to the **2. Manufacturing Facility Standard of each KGS CODE** according to the classification of **[Appendix 3-1]**

Example) In the case of **Aluminum alloy Seamless Cylinder(spinning)**

- 1) **[Appendix 3-1]** It corresponds to **category 4** and the corresponding code number is **AC212**
- 2) Prepared with reference to **2. Manufacturing Facility Standard** of **KGS AC212**
- 3) In the case of sub-contractor's items, write down name and equipments of the sub-contractor

2. Manufacturing Installation Standard

2.1 Manufacturing Facilities

A person who intends to manufacture cylinders shall be furnished with the following manufacturing facilities (restrictive to the facilities required for the cylinders to be

<2.1 Example of Manufacturing Equipment preparation>

Number	Equipment Classification	Name of Equipment	Specification	Quantity	Note*
(1)	Forging equipments or forming equipments	Forming Press Pipe Cutting Machine	30Ton Max $\Phi 500$	3 2	
(2)	Lower part jointing equipments	Pre-Heating Machine Spinning Machine	1300 $\pm$ 50 $^{\circ}$ C Max $\Phi 500$ * L 1300mm	2 2	
(3)	Heat treatment furnaces and automatically record temperatures in the furnaces	Quenching Furnace Tempering Furnace Temp. Recorder	1300 $^{\circ}$, 6000*2000*4000 500 $^{\circ}$ C, 6000*2000*4000 Thermocouple * 12	1 1 1	
(4)	Cleaning equipments	Acid Cleaning Booth	2000*1000*2000	2	
(5)	Shot blasting equipments and painting equipments	Shot Blasting Room Painting Room	5000*2000*7000 5000*2000*7000	1 1	sub-contractor Company;AAA
(6)	Valve attaching and detaching equipments	Valve Assembly Line	Torque Meter(0~300N-m)	5	
(7)	Cylinder internal dryers and vacuum suction equipments	Drying System Vacuum Pump	- 500W, 70Torr	1 1	
(8)	Other equipments and apparatuses necessary for manufacturing of cylinders	Stamping Machine Crane	- 50Ton	1 3	

<2.2 Example of Inspection Equipment preparation>

Number	Equipment Classification	Name of Equipment	Specification	Quantity	Note*
(1)	Pressure-proof test systems	Hydrostatic Testing Machine	Max 50MPa	8	
(2)	Gas tightness test systems	Air-Tightness Testing Machine	Max 30MPa	8	
(3)	Thickness gauges such as ultrasonic thickness gauges, thread gauges, vernier calipers, etc.	Ultrasonic Thickness Meter Plug & Ring Gauge Calipers Height Gauge Coating Thickness Gauge	0~50(0.01)mm M28 * 1.5 etc. 0~300(0.01)mm etc. 0~700(0.01)mm 0~1250(0.1) μ m	4 many many 1 1	
(4)	Balances	Electronic Weight	0~200(0.01)kg	1	
(5)	Cylinder accessory performance testers	-	-	-	N/A
(6)	Cylinder overturning stands	-	-	-	N/A
(7)	Internal lighting equipments	Internal Inspection Light	-	5	
(8)	Universal material testing machines	Universal Testing Machine	1000kN	3	
(9)	Valve torque meters	Torque Meter	0~300(1)N-m	4	
(10)	Standard pressure gauges	Standard Pressure Gauge	0~50(0.1)MPa 0~30(0.1)MPa	5 5	
(11)	Standard temperature gauges	Standard Temperature Meter	-30~100(0.1) $^{\circ}$ C	5	
(12)	Other equipments and apparatuses necessary for inspection of cylinders	Flattening Testing Machine Impact Testing Machine NDE Cycling Testing Machine Burst Testing Machine	- ASTM E23 UT, MT, PT Max 50MPa Max 100MPa	1 1 each 1 1 1	

*If there are not applicable or using sub-contractor, please write that on 'Note' tab.

3. Quality Control Manual & Procedure

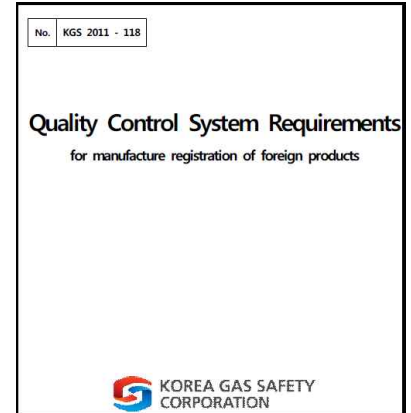
3.1. Quality Control Manual :

Should include and meet all the

[Quality Control System Requirements for manufacture registration of foreign products]

3.2. Procedures :

- In the case of sub-contractor's products, procedures of the sub-contractor can be used
- Limited to the applicable process during manufacturing and inspection
 - 1) Material Control(ex; receiving or incoming inspection)
 - 2) Welding
 - 3) Fabrication(Heads, Shell, and so on)
 - 4) Non-Destructive Testing(Examination)
 - 5) Heat-Treatment
 - 6) Pressure-Proof Test
 - 7) other tests or examination required on standards
 - 8) Calibration
 - 9) Marking, Stamping



4. Strength Calculation and Drawings for Cylinders

- When applying in a foreign standard, it must be only documents recognized by the relevant authorized inspection agency
- For items without strength calculation, it can be submitted as other documents such as thickness calculation formula

5. Application Form for Technical Review

(with original signature by representative of the factory)

[Appendix 4-2] Required Documents for Technical Review [Gas Appliances]

1. General

1.1 Company profile

- Company, CEO, Address, Phone number etc.
- Manufactured Product Status

1.2 Company Registration Status

- Manufacturing Standard : KGS AB 338, KGS AA 336 etc.
- Quality Certificate : ISO 9001 etc.

1.3 Application Items (Type)

- Item : Commercial Gas Burning Appliances (Refer to [Appendix 3-2] for product name to apply)

1.4 Various layouts

- Workplace layout, manufacturing facility layout, inspection facility layout etc.

1.5 Manufacturing process flow chart

1.6 Sub-contractor status

: If the main parts, performance test, forming, non-destructive test, mechanical test, etc. are performed by sub-contractors, the details should be described.

(※ The table below is an example of preparation and should be appropriate for the manufacturing process and inspection method required by the standard for each product)

<Example of Sub-Contractors status>

No.	Process Classification	Company Name	e-mail	Address	Name of Process (Name of Parts)	Note(2)*
1	Main parts*	<u>AA. Ltd</u>	AA@aa.com	<u>1234 aaa ST</u>	Valve body, Cock, Regulator, Burner, Nozzle, Chimney etc	
2	Performance test	<u>BB. Ltd</u>	BB@bb.com	<u>1234 bbb ST</u>	Durability, Heat resistance, EMC etc	
3	Forming (Cast, Forging)	<u>CC Casting</u>	CC@cast.com	<u>1234 ccc ST</u>	Valve body, Cover, Burner etc	
4	NDT	<u>DD NDE Co</u>	DD@dd.com	<u>1234 ddd ST</u>	RT. MT. PT. UT	
5	Mechanical test	<u>EE Mechanical Testing</u>	AA@aa.com	<u>1234 eee ST</u>	Tensile, Bending, Impact	
6	etc	-	BB@bb.com	-	-	

* (1) **Main Parts** : Parts that significantly affect quality of gas appliances

(2) **Note** : If the applicable product is a certified product (KS, CE), or registered to [Overseas Supplier Quality Registration], enter the certification details, etc.

※ Required documents for sub-contractor registered in KGS can be replaced with [Overseas supplier registration Certificate].

2. Manufacturing and Inspection Equipment Status

2.1 Manufacturing Equipment Status

- Fill out the form below to reflect **the 2.1 manufacturing facilities of each KGS CODE** of the product being manufactured.

(※ The form below is an **example of preparation** and should be appropriate for the manufacturing equipment required by the standard for each applicable product)

<Examples of manufacturing facilities>

No.	Equipment Classification	Equipment Name	Equipment Spec	Quantity	Note
1	Manufacturing Equipment	Perforator	30Ton Max Φ500	1	
		Press	100Ton	2	
		Pipe Bending M/C	MaxΦ500 30Ton	3	
		Cutting M/C	30Ton	4	
		Forming Equipment	CASTING/FORGING	1	Using Sub-contractor
		Etc			
2	Polishing/Painting Equipment	Polishing Booth	2000*2000*3000mm	1	
		Painting Booth	2000*2000*3000mm	2	
		Etc			
3	Washing Equipment	Ultrasonic Washing Equipment	1000*1000*500mm	1	Using Sub-contractor
		Pneumatic Washing Equipment	1000*1000*500mm	2	
		Hydraulic Washing Equipment	1000*1000*500mm	3	
		Etc			
4	Assembly Equipment	Welding M/C	SMAW / GTAW(TIG)	1	
		Power Assembly Jig	-	2	
		Assembly Workbench (Line)	-	2	
		Air Driver, Air Wrench	-	1	
		Air Compressor	Max 1MPa	1	
		Etc	-		
5	Other facilities/ equipment				

2.2 Inspection Equipment Status

- Fill out the form below to reflect **the 2.2 inspection facilities of each KGS CODE** of the product being manufactured.

(※ The form below is an **example of preparation** and should be appropriate for the inspection equipment required by the standard for each applicable product)

Ex) In case of manufacturing of Commercial Gas Burning Appliances : Applicable code KGS AB 338 2.2 Inspection equipment standards and 3. Manufacturing technology standards

<Example of creating inspection equipment>

No.	Equipment Classification	Equipment Name	Equipment Spec	Quantity	Note*
1	Dimension Measuring Equipments	Vernier Calipers	0~300mm	1	Self
		Micro Meter	0~50mm	2	
		Screw Gauge	M8* 1.25	3	
		Pin Gauge	1.10~1.70mm	4	
		Etc			
2	Material Testing Equipments	Gas Resistance testing Equipment (Constant temperature bath, precision scale, etc.)	CH ₄ , C ₃ H ₈	1	
		Corrosion performance test equipment (Salt spray test facility)	500*500*1000mm	1	Contract of Equipments
		Heat resistance performance measuring equipment (Electric Furnace)	500*500*500mm Max 2000°C	1	
		Etc			
3	Performance Testing Equipments	Pressure test equipment (pressurization device, pressure gauge, compressor etc.)	Max 50MPa	1	
		Gas tightness equipment (air compressor, pressure gauge, gas leak detector)	Max 30MPa(kPa)	1	
		Gas consumption measurement equipment (Pressure gauge, thermometer, gas meter, etc.)	50kPa 0~500°C 5m ³ /h	1	
		Surface temperature measurement equipment (Surface thermometer)	-30~500°C	1	
		CO/CO ₂ analyzers	0~10,000ppm	1	
		Insulation resistance testers	0~2000V 0~ MΩ	1	
		Withstand voltage testers	0~2000V	1	
		Leakage current	0~100mA	1	
		Power consumption watt meters	0~100W	1	
		Torque meter	0~300Nm	1	
		Electromagnetic compatibility	-	1	Authorized inspection agency
		Fire safety device performance (timer)	-	1	
		Etc		1	
4	Safety device operation test Equipments	Backwind prevention device	-	1	
		Overheating prevention device	0~300°C	1	
		Etc			
5	Durability test Equipments	Valve durability tester	10~20/min	1	
		Vibration resistance tester	10~20/min	1	
		Etc			
6	Test gas supply Equipments	LNG supply equipment	LNG SUPPLY LINE	1	
		LPG supply equipment	LPG VESSEL	1	
7	Other necessary inspection Equipments	AAA			
		BBB			

*Marking by divide into Itself, Authorized inspection agency or Equipment rental(equipment contract) according to the equipment name for each process

3. Quality Control Manual and Procedure

3.1. **Quality Control Manual** : Should include all the **[Quality Control System Requirements for manufacture registration of foreign products]**

1. Quality Control System
2. Management responsibility
3. Resource Management
4. Product Realization
5. Measurement analysis and improvement

3.2 Procedure

- Limited to the applicable process during manufacturing and inspection
- 1. Material Management(Incoming Inspection)
- 2. Welding
- 3. Forming(Valve Body, Cover. etc)
- 4. NDE
- 5. Heat Treatment
- 6. Pressure Test
- 7. Test, Inspection Procedure Management (Requirements by manufacturing standards)
- 8. Calibration of measuring and testing equipment
- 9. Product labeling (nameplate, etc.)



4. Product and parts drawings

5. Thickness calculation (Applicable to Valves for pipes only)

6. Product User Manual, Brochure (Catalog)

7. Application Form for Technical Review

(with original signature by representative of the factory)

[Appendix 4-3] Required Documents for Technical Review [Hydrogen Appliances]

1. General

1.1. Company profile : Name of company and representative, factory address, products etc.

1.2. Qualification : Certificates for Manufacturing Codes (Standards) and Quality (where applicable)

1.3. Manufacturing items and process drawings for application :

The classification, manufacturing codes (standards), and process drawing which will be registered (see [Appendix 3-3])

1.4. Sub-Contractor : If the [Design Stage Inspection] things are performed by an other (sub-contractor) company, if [Cylinders, etc] such as pressure vessels and safety valves used for hydrogen appliances are supplied from other companies, please write the details in the form below.

<Example of Sub-Contractors – Design Stage Inspection things>

Sub-contractors		Company Name	e-mail	Address	Distance from Your Company (Km)	Note.
Design Stage Inspection	3.4.3.6	KGS	AA@cc.com	1234 aaa St.	11	
		BB Electric Lab.	BB@dd.com	5678 bbb St.	22	
	3.4.3.4. Insulation resistance Performance	KGS	AA@ee.com	1234 aaa St.	11	
		BB Electric Lab.	BB@ff.com	5678 bbb St.	22	

<외주업소 현황 작성 예시 - Parts*>

Parts	Design Pressure (Setting Pressure)	Internal Volume (Size)	Manufacturing Code	Manufacturer (address)	Registration No. (Korean Government)
Pressure Vessels	50MPa	40L (O.D 400*1m)	ASME Sec.VIII Div.2	AA PV. (211 aa st.)	ES-0000
				BB Vessels. (422 bb st.)	ES-1111
Safety Valves	65MPa	(45A)	PED+ISO 4126	CC S/V. (183 Ave.)	ES-2222
				DD Safety System. (111 st.)	ES-3333

※ If a cylinder, pressure vessels, safety valve, etc.([Cylinders, etc.]) subject to the "High Pressure Gas Safety control Act(KOREA)" are included, the component must be manufactured by a company that has **completed factory registration and inspected by the relevant authorized inspection agency.**

2. Manufacturing & Inspection Equipment list

- A list of required equipment is prepared by referring to the **2. Manufacturing Facility Standard of each KGS CODE** according to the classification of **[Appendix 3-3]**

Example) In the case of **Water Electrolysis Facility**

- 1) **[Appendix 3-3]** It corresponds to **category 3** and the corresponding code number is **AH271**
- 2) Prepared with reference to **2. Manufacturing Facility Standard** of **KGS AH271**
- 3) In the case of sub-contractor's items, write down name and equipments of the sub-contractor

Korea Gas Safety Code KGS AH271

2. 제조시설기준

2.1 제조설비

수입설비를 제조하는 자는 이 제조기준에 따른 수입설비를 제조하기 위하여 다음의 제조설비

<2.1 Example of Manufacturing Equipment preparation>

Number	Equipment Classification	Name of Equipment	Specification	Quantity	Note*
(1)	구멍가공기, 프레스, 관굽힘기, 절곡기, 주물가공설비	Forming Press Pipe Cutting Machine	30Ton Max Ø500	3 2	
(2)	표면처리 및 도장설비	Shot Blasting Room Painting Room	5000*2000*7000 5000*2000*7000	1 1	
(3)	가스용접기 또는 전기용접기 및 동력용조립지그, 공구	Welding Machine(GTAW) Jig	550A -	5 20	
(4)	셀 및 스택 제작 설비	Stack	2000*1000*2000	2	외주업체 업체명:AAA
(5)	전기회로기판 회로인쇄, 부품삽입, 납땜 설비	Circuit	-	1 1	외주업체 업체명:BBB
(6)	그 밖에 제조에 필요한 설비 및 기구	Stamping Machine Crane	- 50Ton	1 3	

<2.2 Example of Inspection Equipment preparation>

Number	Equipment Classification	Name of Equipment	Specification	Quantity	Note*
(1)	초음파두께측정기 나사계이지 버니어캘리퍼스 기타 측정기류	Ultrasonic Thickness Meter Plug & Ring Gauge Calipers Height Gauge Coating Thickness Gauge	0~50(0.01)mm M28 * 1.5등 0~300(0.01)mm 등 0~700(0.01)mm 0~1250(0.1)µm	4 다수 다수 1 1	
(2)	가스유량계	Gas Meter	0~50L(0.01L)	3	
(3)	내압시험설비	Hydrostatic Testing Machine	Max 50MPa	8	
(4)	기밀시험설비	Air-Tightness Testing Machine	Max 30MPa	8	
(5)	절연저항측정기 및 내전압시험기	Insulation Resistance Testing Voltage Meter	0~10MΩ(0.1) 0~5000(0.1)V	1 1	
(6)	전압 및 전류측정기	Clamp Meter	0~1000(0.1)V 0~400mA(0.1)	2	
(5)	안전장치 성능시험 설비	Testing Machine	-	1	
(6)	표면온도 측정설비	Surface Temperature Meter	-30~1000(0.1)°C	5	
(11)	수소 및 산소농도 측정설비	Portable Gas Meter	(0.1ppm)	5	
(12)	그 밖에 검사에 필요한 설비 및 기구				

*If there are not applicable or using sub-contractor, please write that on 'Note' tab.

3. Quality Control Manual & Procedure

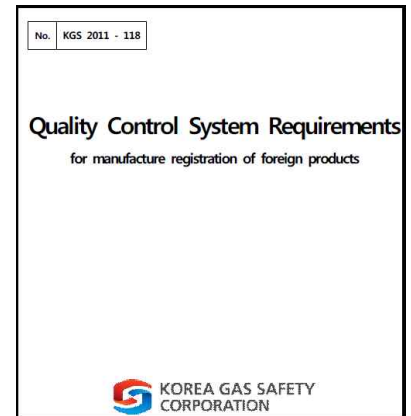
3.1. Quality Control Manual :

Should include and meet all the

[Quality Control System Requirements for manufacture registration of foreign products]

3.2. Procedures :

- In the case of sub-contractor's products, procedures of the sub-contractor can be used
- Limited to the applicable process during manufacturing and inspection
 - 1) Material Control(ex; receiving or incoming inspection)
 - 2) Welding
 - 3) Fabrication(Heads, Shell, and so on)
 - 4) Testing(Design stage inspection, production inspection)
 - 8) Calibration
 - 9) Marking, Stamping



4. Process Description (only for 'Water Electrolysis Hydrogen Generator' and 'Hydrogen Generators Using Fuel Processing Technologies')

5. Piping and Instrumentation Diagram(Drawing)

(only for 'Water Electrolysis Hydrogen Generator' and 'Hydrogen Generators Using Fuel Processing Technologies')

6. Drawing for Products and Parts

(with original signature by representative of the factory)

- If a cylinder, pressure vessels, safety valve, etc.([Cylinders, etc.]) subject to the "High Pressure Gas Safety control Act(KOREA)" are included, drawings of them are also required.

7. Application Form for Technical Review

(with original signature by representative of the factory)

(Note) Precautions when registering Storage tanks, Pressure vessels, and Specified equipment for refrigeration

*** These are precautions when registering items 19, 20, and 22 (Specified equipment for refrigeration, Storage tanks, Pressure vessels) among [Cylinders, etc.].**

- In overseas, each item is generally defined as a "Pressure Vessel" (treated as a single item), but in Korea, each item is classified separately.
- Specified equipment for refrigeration, storage tanks, and pressure vessels are classified according to their location when installed in Korea.
 - Specified equipment for refrigeration, Storage tanks, and Pressure vessels have separate installation standards, and these standards are different.
- Therefore, if the place where the items are to be installed in the future is not confirmed or are going to be installed in multiple locations, we recommend that manufacturer applies for local factory audit with multiple items at once.
 - Example**) Products from manufacturer registered only as 'Storage tanks' cannot be installed as 'Pressure vessels' or 'Specified equipment for refrigeration' later.
 - If manufacturer wants to add items later, manufacturer must apply for **[Alteration audit] : Technical Review and Local Factory Audit included.**

(Note) Calculation of the validity period of registration by Re-Audit pass after Non-conformity

- * If the corrective action for nonconformity is completed beyond the expiration date of the registration, the initial date in reckoning of validity period of the new registration certificate is the day following Re-Audit passed, and the expiry date is the date that is extended by 3 years from the day following the expiry date of validity period of the existing registration certificate.

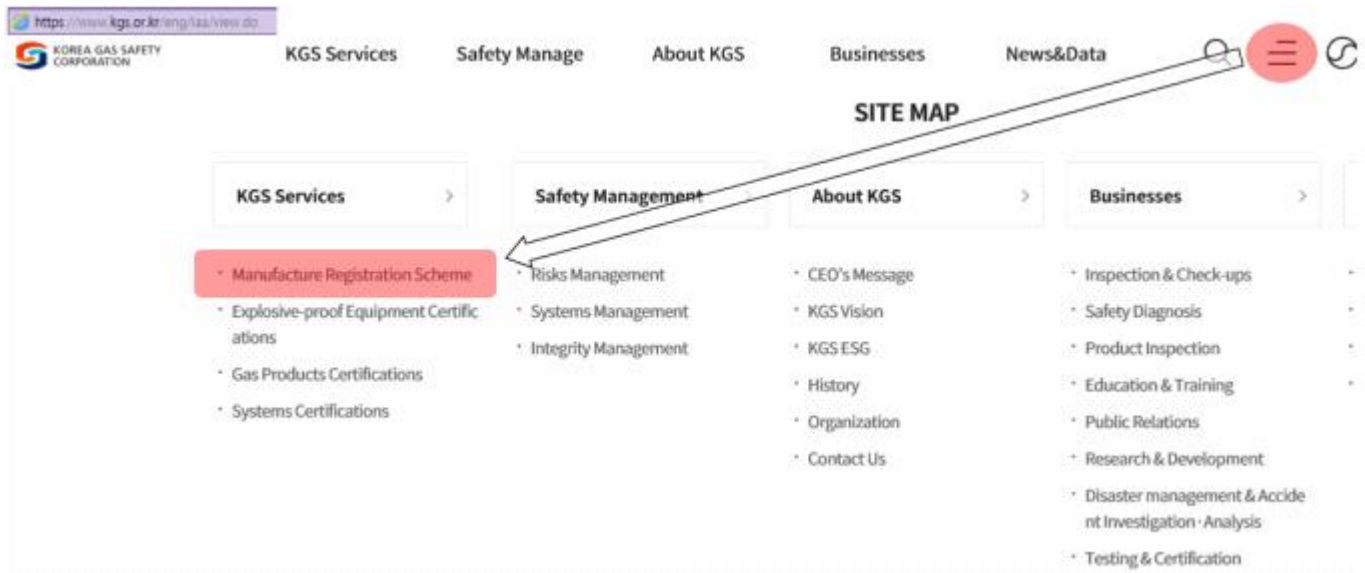


- * This is the case when manufacturer has already registered and the validity period of registration certificate is from June.15.2020 to June.14.2023
- * This is a case of the manufacturer received **[Renewal Audit]**(including **[Minor-nonconformity]** and **[Major-nonconformity]**) for extension, but after being determined as Non-Conformity, the day when the manufacturer is determined as conformity during Re-Audit(**[Re-Audit(on paper)]** for **Minor-nonconformity**, **[Re-Audit(On-site)]** for **Major-nonconformity**) period exceeds the expiry date of existing registration certificate.

- If the Re-Audit pass date is July.01.2023, the initial date in reckoning of new registration certificate is the day following the pass date, July.02.2023
- The expiry date of new registration certificate will not be July.01.2026, but June.14.2026 when extended by 3 years from the existing registration expiry date.
- Therefore, products manufactured (including inspection) during the period from June.15.2023 to July.01.2023 cannot be exported to Korea.
- The total validity period of new registration certificate is less than three years. (July.02.2023 ~ June.14.2026)

(Note) How to access the KGS website

- www.kgs.or.kr/eng



- or <https://www.kgs.or.kr/eng/iaa/view.do> (direct access)

Caution

There may be differences from the contents of the latest Laws/Standards/Guidelines currently applied.



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