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#### B. Making, Review and Approval

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### 1. Applicable Scope

This procedure is applied to handling of status indication and the procedure on the import inspection, process inspection, final inspection, delivery inspection, attendance inspection, inspection on business trip, test and the inspection results.

### 2. Objective

This procedure aims at attaining the quality assurance and quality objective through the confirmation of suitability, status indication and history control of products for satisfying the prescribed requirements of customers.

### 3. Definition of Terminology

#### 3.1 Raw Material

This refers to material that is not processed, not constituting the main core of product.(ex : round rod, pipe, hexagonal rod, rectangular rod, etc)

#### 3.2 Semi-Finished Products

This refers to status that the raw material is proceeded more than one process, but not yet finished with the final process.

(ex : forging, half-finished products processed by the band saw)

#### 3.3 Outsourcing Processed Products

These refer to the products that are produced by the outsourcing company after our company requested the products to be processed in compliance with the same standard as requested, at the status of receiving the order from customers.

#### 3.4 Outsourcing Processed, Leased Products

These refer to the products that are produced by the outsourcing company after our company requested the products to be processed, confining to specific articles or specific processes in the progression of process.

(ex : plating, heat treatment, secondary processed articles, etc.)

#### 3.5 Contract Inspection

This refers to the inspection that the customer confirms only the external shape, or the quantity.

#### 3.6 Special Acceptance

This refers to the approval in written that the articles unsuitable for the prescribed requirements can be used or delivered.

#### 3.7 Urgent Delivery

This refers to the case that the articles are urgently purchased for provision against the expected discontinuance of production and delivered to the production field without passing the import inspection .

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### 3.8 Approval of Mass Production

This refers to the case that the company gets the approval of customers for the pilot production after receiving the required standard(drawing, technical specification)from the customer.

### 3.9 Attendance Point

This refers to the items that are manufactured or inspected with the attendance of customer, or the inspector designated by the customer, with appointing the important inspection points in the process. In this case, the work can be proceeded only by verbal notification of the customer, with the customer not attending.

### 3.10 Compulsory Confirmation Point

This refers to the inspection items that cannot be proceeded to the next process without getting the judgment of acceptance through the inspection with the attendance of customer or the inspector designated by the customer.

### 3.11 HEAT NO

This refers to the raw material manufacture NO that is produced under the same raw material, same furnace, same working conditions in the raw material producing company.

### 3.12 Import Inspection

This refers to the inspection that is conducted before warehousing on the articles purchased or supplied from outside, such as raw material, semi-finished products(forging), outsourcing processed products, outsourcing processed, leased products. In this case, the inspection is conducted with classifying into inspection articles and contract articles(attached table #1).

### 3.13 Process Inspection

This refers to the inspection that is conducted by the worker when inspecting the frequent-inspection items designated in the working process or requesting the outsourcing processed, leased articles in the process.

### 3.14 Final Inspection

This refers to the inspection that is conducted at the status that the processing is completed.

### 3.15 Delivery Inspection

This refers to the inspection when the accepted products are delivered, with confirming the heat no, qty, marking status, the requested color from customer by each material.

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### 3.16 Attendance Inspection

- (1) This refers to the inspection that is conducted with the attendance of inspector of our company who went on an official business trip, before the outsourcing company delivers the outsourcing processed articles, and the outsourcing processed, leased articles.
- (2) This refers to the inspection that is conducted with the attendance of customer, or an inspector designated by the customer before the products are delivered to customer.

## 4. Responsibility and Authority

### 4.1 Quality Assurance Department

- (1) Establishment of size and preparation of test standard
- (2) Establishment of methods for inspection and test.
- (3) Establishment of frequent-inspection(process check)items
- (4) Judgment of acceptance for the inspection results including the articles to be given to customers.
- (5) Analysis of defection causes and confirmation of effectiveness of established measures
- (6) Review and deliberation of special acceptance
- (7) Maintenance of record on the test, inspection results  
(Issue of test, inspection sheet and certificate)
- (8) Analysis of test, inspection data
- (9) Measures for problems in quality
- (10) Confirmation on the unapproved material

### 4.2 Production Department

- (1) Request for process inspection and delivery inspection
- (2) Measures for unqualified articles(return, request for special acceptance, selected acceptance)
- (3) Notification of test data and the certificate of unqualified articles to the customers(outsourcing processed, leased machines)
- (4) Confirmation on the suitability of urgently delivered articles
- (5) Request for the establishment of process items for frequent-inspection and enforcement of frequent-inspection
- (6) Marking up of history for the articles on process, and stocked articles.  
(detailed statement for the articles)

### 4.3 Business Department

- (1) Obtaining the test, inspection information of customer, and notification to the related departments when reviewing the contract

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(2) Receipt of the test for mass production approval, and request for the review on the results

#### 4.4 Administration Department

(1) Obtaining the test, inspection information and notification to the related departments when reviewing the export contract.

(2) Receipt of the test for mass production approval of exports, and request for the review on the results

#### 4.5 Production Department (in charge of purchase, material)

(1) Implementation of measures for the unqualified articles(return, request for special acceptance, selected acceptance)

(2) Notification of test data and the certificate for the unqualified articles to the customers

(3) Request for inspection of long term stock

#### 4.6 Test, Measurement, Inspector

(1) The inspector should conduct the inspection according to the inspection standard, and should not be interfered with in any cases regarding the inspection and test from others or other department except his direct senior staff and is responsible for the record.

(2) The inspector can prohibit the delivery and warehousing of the products or parts that do not complete the required inspection and test.

(3) The inspector can send the quality information after the test results to the related team so that they can take proper measures for the problems, if any.

### 5. Work Handling Procedure

#### 5.1 Test and Inspection

##### (1) Test and Inspection Plan

a. Head of quality assurance department should establish, operate the inspection plan according to the request of customer or frequent-inspection plan in compliance with the product characteristics. In this case, the procedure should be established so that the qualified person for inspection, test and measurement may conduct his work.

However, the unqualified person can conduct the work of operating the facilities and equipments under the supervision of qualified person.

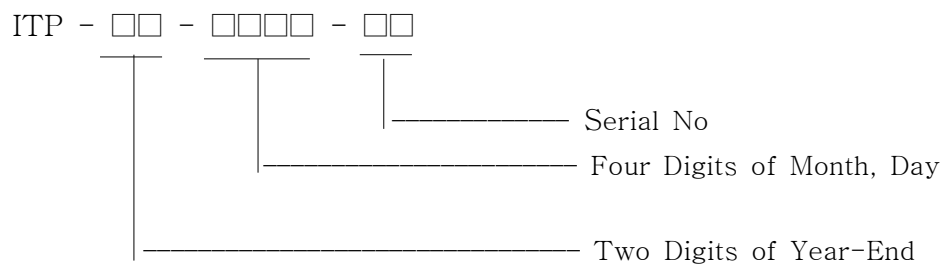
b. When establishing the inspection plan, head of quality assurance department should prepare the plan that contains the test, inspection items, standard size, inspection method, judgment standard, test gauge that can verify the requirements prescribed in drawings, JIS, ANSI, ASTM and reference documents.

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- c. The quality plan can be replaced with the inspection standard, QC process chart, work instruction by each machine, and can be prepared for each item of the project according to article 5.1.2 in case the customer requests.
- d. To confirm if the material size and code requirements are in accordance each other, the control procedure of test, inspection, measurement should be established and the detailed contents should comply with the inspection standard.
- f. To confirm if the inspection standard is in accordance with the specific requirements, the inspection standard should specify the items for inspection and test method to be used.
- g. The inspector should establish the education plan for the technical objective, size and quality assurance plan factors, and the plan should contain duty training in field that carried out the inspection, measurement, test actually.

(2) Method of preparing the test, inspection plan

- a. The manufacture and test plan or test, inspection plan(attachment #19)should be prepared according to the customer request.
- b. The plan should contain the doc. no, customer name, order no, product name, project name, preparer, reviewer, approver, and the revised contents, etc. and should acquire the approval of customer.
- c. The numbering of documents are designated according to the following system.



- d. The person in charge of standard should record and maintain the approved test, inspection plan in the test, inspection plan control register(QP13-01).
- e. The requirements of inspection for code product should be reflected in the movement table of manufacture process.

(3) Test, Measurement, Inspection Equipments

- a. The person in charge of test, measurement and inspection should use the equipments for which the precision, accuracy are assured when conducting the inspection.

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- b. He should confirm the calibration of test, measurement, inspection equipments before putting them in use, and should use the equipments for which the precision and accuracy is maintained after putting off the use and completing the proper measures when the effective period for calibration has expired or when he found the problems occurred.
  - c. The identifying no of test, measurement equipments that are used for the inspection and test of code products should be written in inspection certificate, and movement table of manufacture process. When the recording is not possible, they should be recorded in the attached documents.
- (4) Qualification of the person in charge of test, measurement, inspection
- a. The person should be the high school graduate, and should have the experience of six month or more in field.
  - b. The person of over second class qualification, QC Engineer
  - c. The person who finished the education on test, measurement, inspection and QC for 30 hours or more.
  - d. The person whose corrected eyesight is 0.6 or more
  - e. The person who is not astigmatic or color-blind
  - f. The person who has the capability of test, measurement, inspection, and work
  - g. The person who has the capability of recording, maintaining the record, and reporting
  - h. In case of articles(a)-(c),the person can be regarded as qualified for all the requirements of articles(a)-(c), when he satisfies either one of the articles(a)-(c).
  - i. The inspector is evaluated, selected according to the qualification evaluation table for the person in charge of test, measurement, inspection (attached table #2)through the test results or practical evaluation, as the one who has the experience of related work and training.
- (5) Qualification certification of the person in charge of test, measurement, inspection
- a. The execution of the person in charge of test, measurement, inspection should be re-evaluated at least once for three years, and he should not be allowed to execute the work until the required work capability in re-evaluation is verified.



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His work capability should be re-evaluated according to article (4).i of the above qualification requirements when he did not conduct the inspection or the work in the pertinent qualification field for more than one year.

b. The qualification documents should contain the followings.

(㊦) Company Name

(㊧) Name of the person who acquired the qualification certification

(㊨) Work field of qualification certification

(㊩) Name of the person who approved the qualification certification

(㊪) Date of qualification certification and the expiration date

c. He should maintain and control the recorded matters, such as the certifying foundation(education, training, evaluation results), results of periodic evaluation, physical conditions, etc.

(6) Control of Test, Measurement, Inspection Status

The inspector marks up the acceptance in article statement and affixes his seal and signature in case the articles are acceptable. and affixes his seal and signature in the tag for unqualified articles in case the articles are unacceptable, and attaches the tag to the actual products.

The articles or processes for which the test, measurement, inspection are not conducted should not be used or transferred to next process without the marking-up indicating the status by the tester or inspector, such as the used tag, or traveller, process movement table, seal carving, etc.

In this case, the pertinent inspector or the authorized person under the responsibility of the inspector has the authority to attach or remove these marks.

(7) The removal of the status indicating marks for the unqualified articles can be removed by the inspector only when the pertinent requirements are satisfied after taking the measures of the selection, repair, etc.

5.2 Import Inspection(Acceptance Inspection)

(1) Request for Import Inspection(Verification)

a. The person in charge of supplying the raw materials, semi-finished products, (forging products), outsourcing processed products, outsourcing processed, leased products, and packing materials in the subcontractor company, should request for the import inspection after preparing the transaction statement(four copies/1 set) together with quality recorded documents to quality control department.

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- b. When requesting for import inspection of the products according to drawings approved in-company or the drawing of customers as unstandardized products, he requests for import inspection after confirming the attached drawings.
- c. When requesting for import inspection of raw materials and forging articles, he must request for import inspection after attaching the certificate issued by the raw material supplier to transaction statement. and he also should request the raw material M/S of outsourcing processed articles when necessary.
- d. The company should conduct the import inspection on forging materials that are supplied to our company according to the approved drawings or the size in order to verify if the requirements of pertinent size meet the requirements of size in ASME/ANSI B16.11 after going through the processing process.
- e. The person in charge of materials should request for verification after submitting the seal, test piece together with heat treatment record paper for the heat-treated materials in/outside the company.

(2) Enforcement of Import Inspection

- a. The person in charge of import inspection who received the request for import inspection should put off the inspection or take measures of unqualified articles when there is any omission or incorrect in the contents of record after reviewing quality record.
- b. He conducts the inspection when there is no problem in quality record documents after comparing the actual products with the size.
- c. Inspection method, inspection item and judgment standard comply with the inspection standard.
- d. In case of SEC.III materials among the code materials, the company should review CMTR or C of C that is provided by the subcontractor company, using the CMTR & Material Checklist(QP13-02), and in case that the unaccepted materials are used for code materials, the company should verify, using the check sheet(QP13-03) for the use of unaccepted materials. and in case of the documents that are provided by the approved material supplier together with the materials, the company should specify the revision no, revision date of quality system plan or ASME.III/KEPIC MN certificate no and the expiration date.

(3) Marking-Up of Import Inspection Results

- a. The company marks up the import inspection results of raw materials, as acceptable in case of qualified articles, and keep them in storage container with the marking-up of acceptance, and in case of unqualified articles, the company records it on the tag of unqualified articles, and attaches the tag to the actual products and keeps them in separate storage.

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- b. In case the forging articles are acceptable, the company records the product name, material, size, quantity, etc. in the product statement, and records the heat no. etc. in the remarks, and affixes the signature for marking-up of acceptance, date and inspector on the actual products, and in case of unqualified articles, the company records the afore-mentioned matters, contents of defection, measures to be taken on the tag of unqualified articles, and keeps it in storage after classification.
- c. In case of outsourcing processed machines, the company records the marking-up of inspection status in the movement table of manufacture process, attaches it to actual products if there exists the movement table of manufacture process, and if there doesn't exist the table, the company records the marking-up of inspection status in the tag of acceptance(QP13-04) and attaches it to actual products.
- d. The company records the marking-up of inspection status for transaction statement, raw material certificate, movement table of manufacture process, in/out material statement among the import inspection documents, as " the import inspection is completed " when the articles are acceptable.

### 5.3 Process Inspection

#### (1) Enforcement of Process Inspection

- a. Head of production department should mark up frequent-inspection items after having a consultation with head of quality assurance department when preparing the work guidance.
- b. Head of quality assurance department should prepare QC process chart, and should establish, mark up the frequent inspection items of worker and process inspection items of inspector in quality assurance department.
- c. The worker should conduct the inspection only limited to the frequent check items that are specified in the work guidance or work process flow chart, and if there occur any problems as the result, he should record in the margin of movement table of manufacture process (1),(2).
- d. The worker should inspect the pilot production, and be sure to inspect the pilot production after the tool exchange or equipment repair, and record the results in the blank of checking results of movement table of manufacture process.
- e. The worker should establish all the standard products among the articles of which the customer requested standard is presented as frequent inspection items by the worker in field, and should request the process inspector to conduct the

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inspection for the processes or items with the allowable tolerance of under  $\pm 0.05\text{mm}$ . In this case, the process inspector who received the request should conduct the inspection only limited to the inspection items, and should record, maintain the results in the process inspection sheet(QP13-05), and should affix his seal or signature for the completed inspection on process, or should mark up either the acceptance or rejection in the pertinent blank of process inspection in the movement table of manufacture process.

- f. The person in charge of purchase, material should request the process inspector of quality assurance department to conduct the process inspection by the movement table of manufacture process or material in/out statement before taking out the outsourcing processed, leased articles(excluding the plating, or heat treatment). In this case, the process inspector who received the request should conduct the inspection, and should record, attach the results in the movement table of manufacture process or material in/out statement.
- g. When the customer requests for the customer attendance point or the compulsory confirmation point, head of quality assurance department should operate by designating the item in QC process chart of inspection standard.
- h. The company should record the inspector, inspection quantity, inspection date, etc in the blank of movement table of manufacture process when the process inspection of the inspector is regarding the spring work, and the other records comply with article(d).
- l. In case of code products, the qualified testor, inspector should conduct the inspection, and record, maintain the results in movement table of manufacture process.

## (2) Marking-Up of Process Inspection Result Status

- a. The process inspector should affix his seal for the completion(acceptance or rejection) of process inspection in the blank of checking results of movement table of manufacture process. and attach it to the actual articles.
- b. When delivering for outsourcing processed, leased work in the course of process, inspector should affix his seal for the completion(acceptance or rejection) of process inspection in the blank of checking results of movement table of manufacture process. and attach it to the actual articles.
- c. When the articles are stocked in the warehouse after completing the outsourcing processed, leased work, the company should mark up the results of import inspection in movement table of manufacture process and attach it to the actual articles.

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d. When taking out the forged articles of outsourcing processed, leased items from the warehouse, the company should record either acceptance or rejection in the blank of check confirmation of material in/out statement and should attach it to the actual articles.

#### 5.4 Final Inspection

##### (1) Enforcement of Final Inspection

- a. The company should request for the final inspection for the products that completed the manufacture process without fail.
- b. For the lot constitution of final inspection, the products that are manufactured by one movement table of manufacture process should be classified as one inspection lot.
- c. In case of general standard products, the inspector who conducted the final inspection should record the inspection date, inspector, the judgment of acceptance or rejection and record the contents in the final inspection history card(QP13-06).
- d. In case the products are manufactured according to the drawings, the company records the actually measured dimension of inspection in the pertinent dimension of the drawings, and also records the inspector, inspection date, the number of movement table of manufacture process, and the judgment of acceptance or rejection.
- e. When the customer requests for the record of dimension inspection in particular, the company should record the contents in the final inspection certificate (QP13-07)and provide it to the customer.
- f. In case of code products, the heat/lot no( in case of unapproved material, suffix no. is include), movement table of manufacture process, pertinent processing equipments, worker, heat-treatment, etc should be traced.
- g. The followings should be confirmed at the final inspection.
  - (㊦) Completion of test, inspection for the required processes.
  - (㊧) Completion of the measures for the unqualified matters.
  - (㊨) Completion of the records for test, inspection and the judgment of acceptance or rejection for the results.
- h. The same contents are applied to the articles that are presented to the customers, and for this, the final inspector should notify the person in charge of business.

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(2) Marking-Up of Final Inspection Result Status

- a. The person in charge of final inspection should conduct the final inspection, and mark up the conducted final inspection, inspector, and the judgment of acceptance or rejection without fail.
- b. In case of acceptance, the inspector marks up as " completion of final inspection".
- c. In case the products are manufactured according to the drawings, the inspector should record in the margin of drawings.
- d. The inspector records the contents of final inspection for the standardized products in the final inspection history card(QP13-06).
- e. The person in charge of products should stock in the warehouse, only the articles that are marked up as acceptance as the results of final inspection.

5.5 Delivery Inspection

(1) Enforcement of Delivery Inspection

- a. The person in charge of packing, delivery requests the delivery inspector to conduct the inspection after preparing the request for inspection(QP13-08).
- b. The inspector who received the notification of request for delivery inspection should conduct the inspection according to delivery inspection standard, drawings, and other related data, and issue the inspection certificate with recording the results and should provide the dimension inspection sheet to the customer when the customer demands.

However, in the case of alloy material, the inspector should conduct the identification inspection for all the quantity of material, using the meta scope.

- c. The delivery inspector should record the judgment of acceptance or rejection for the inspection results in the request for inspection, and notifies it to the person in charge of delivery and business department.
- d. The delivery inspector keeps and maintains the request for delivery inspection(QP13-08), CMTR(QP13-09), C of C(QP13-10) after getting the approval of authorizer.

(2) Marking-Up of Delivery Inspection Result Status

- a. When only one article is packed in the packing box, the delivery inspector should mark up the stamping of acceptance or rejection with the rubber stamp in the blank of injection, confirmation on inspection on the box surface, and in case of unqualified articles, he should attach the tag(QP13-11)of unqualified articles as the result of inspection.

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- b. When marking up delivery inspection result status in case the small quantity of various items in one packing box are packed according to their proper classification, the inspector should attach the history(item, size, material, quantity) tag for individual article on the upper surface of packing box, or write the history in compliance with the customer request, and affix the seal or signature for the judgment of acceptance or rejection in the blank of inspection confirmation after enclosing the quality tag or delivery slip in the actual articles.

## 5.6 Attendance Inspection

### (1) Attendance Inspection for the outsourcing company

- a. When the test, inspection facilities or the test, inspection capability of the outsourcing company fall short or are deficient, the person in charge of outsourcing company can request the head of quality assurance department to conduct the attendance inspection on business trip at the field with the request for cooperation or verbally.
- b. When trying to conduct the inspection with designating the compulsory confirmation point in consideration of the manufacture process or product characteristics, head of quality assurance department can conduct the attendance inspection after notifying to the person in charge of the outsourcing company, and the outsourcing company.
- c. The inspector who received the direction or request of attendance inspection conducts the attendance inspection on a business trip, after preparing the drawings, size, test and inspection equipments for the pertinent products, and marks up the test, inspection result status in the pertinent lot, and notify the person in charge of outsourcing company, or the person in charge of purchase, material in our company.
- d. For the pertinent lot on which the attendance inspection is conducted, the inspector replaces it with import inspection at the time of delivery.
- e. The results of attendance inspection should be recorded, and maintained in the import inspection certificate or transaction statement.

### (2) Inspection with the Attendance of Customer

- a. This inspection is conducted when the customer requested the inspection with the attendance of customer, after designating the attendance point or compulsory confirmation point for the specific articles.

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- b. The inspection items, method of sample test, judgment standard, test, inspection equipments, record and maintenance are conducted in compliance with the requests of customers.
- c. This inspection is conducted when the customer requests for attendance inspection for the delivery lot of the company, and the record, maintenance and status marking are handled according to the requests of customers.

(3) Marking-Up of Attendance Inspection Result Status

When the outsourcing company conducted the attendance inspection, the inspector should mark up the results in the actual products or in the box, as the marking-up of inspection results. In this case, the item, size, quantity, date, and results should be recorded in the detailed statement or tag.

5.7 Outside Inspection Authority

(1) Request for Inspection

- a. When the customer requests for the certificate issued by an external inspection authority, head of quality assurance department requests to the inspection authority which the customer designates after preparing the test piece.
- b. Head of quality assurance department who received the notification on the test, inspection results from the certified test, inspection public authority, outside the company, should send the test, inspection certificate to the customer at the request of customer, and keep the original copy or one of duplicated copies in storage.
- c. When the company cannot conduct the test on quality characteristics for the specific articles, due to the poor facilities of the company, head of quality assurance department requests the outside test authority to conduct the inspection and handles the results according to the test certificate issued by the outside authority.
- d. When outsourcing the test of code products, the following requirements should be satisfied.
  - (a) The subcontractor companies should be registered in the subcontractor company registration card(AVL)with being given the qualification of code company.
  - (a) The purchase documents that are required in article, 7.3.4.2 of quality manual and in article 5.3.7 of purchase control procedure should be furnished.
  - (c) Head of quality assurance department should review the test results after obtaining from the subcontractor company and confirm if the code requirements are in agreement of the requirements of KSHP.



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#### 5.8 Non-Destructive Inspection

(1) When selecting the subcontractor company for non-destructive inspection, the following requirements should be satisfied.

- a. The subcontractor company for non-destructive inspection should establish, maintain, implement the quality assurance system that is requested in code, and it should be approved by the customer only limited to the pertinent customer construction, and the qualification should be approved by KSHP.
- b. The subcontractor company for non-destructive inspection should maintain the code, SNT-TC-1A(additional version approved in code), and the qualification certification procedure for the inspector of non-destructive inspection in compliance with KEPIC MEN 1002.

The subcontractor company for non-destructive inspection should certify the qualification of inspector of non-destructive inspection, in compliance with this procedure and should maintain the certification record.

- c. Head of quality assurance department should obtain the quality system manual, the qualification certification procedure for the inspector of non-destructive inspection, and the certification record for staff qualification, and should confirm if they meet the code requirements.
- d. The subcontractor company for non-destructive inspection should be registered in the subcontractor company registration card.

(2) Documents of Outsourcing Contract with the Subcontractor Company for Non-Destructive Inspection

- a. Head of quality assurance department should prepare, maintain the documents of outsourcing contract with the subcontractor company for non-destructive inspection which reflect the requirements of the followings.

(a)Code and the observance of customer requirements

(b)Reference to purchase information mentioned in article, 5.2.4 of quality procedure(marking up of documents no and revision no)

(c)Summary of Construction

Effective Period of Contract

(d)Other Conditions for Commercial Transaction

- b. The above documents for outsourcing contract should be reviewed and approved by head of quality assurance.

(3) Non-Destructive Inspection Procedure

- a. The outsourcing company for non-destructive inspection should prepare the

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non-destructive inspection procedure and provide it to KSHP and it should contain the requirement as follows.

- i ) The requirements of qualification certification for the inspector of non-destructive inspection
  - ii ) Inspection Execution Procedure
  - iii ) Result Evaluation Method
  - iv ) Requirements of Judgment on Acceptance or Rejection
  - v ) Requirements of Recording Results
- b. Head of quality assurance department reviews the effectiveness of the procedure for non-destructive inspection, and affixes the seal on the cover of the procedure and maintains the record.
- c. The procedure for non-destructive inspection should be referred to the movement table of manufacture process when necessary(Doc. NO and Rev. NO should be included).

#### 4) Execution of Non-Destructive Inspection Work

- a. All the work of non-destructive inspection work should be done in the outsourcing company for non-destructive inspection, in KSHP.  
The qualified inspector of the outsourcing company for non-destructive inspection executes the inspection work according to the procedure mentioned in the movement table of manufacture process.
- b. The inspector of the outsourcing company for non-destructive inspection should record the inspection results in the proper form. He should submit the certificate of non-destructive inspection to head of quality assurance department and should acquire his approval.
- c. The inspection report of non-destructive inspection should contain the details for confirming that the procedure and facilities used for each inspection can be traceable and the requirements of each inspection are satisfied.

#### 5.9 Limited Sample

- (1) Head of quality assurance department should establish and operate the items for which the contents of judgment can be changed according to the mood, feeling or situation of the inspector at the moment among the items in relation with the external appearance with setting the limitations for sample.
- (2) Limited Sample should be approved by head of quality assurance and its effective period should be established.

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## 6. Handling after Inspection Completion

### 6.1 Handling of Qualified Products

- (1) The person in charge of purchase, material who received the notification of acceptance as the result of import inspection, should stock raw materials, semi-finished products, outsourcing processed, leased articles, packing material, etc. in designated storage, and supply the items directly to the field when the urgent work or general work is requested.
- (2) In this case, he should transfer to next process only the lot or item that has got the judgment of acceptance as the result of frequent check by the worker or the process inspection by the inspector.
- (3) The person in charge of purchase, material should stock in the warehouse, the outsourcing processed, leased articles.
- (4) He should stock in product warehouse or deliver limiting to only the lot that has got the judgment of acceptance as the result of final inspection.
- (5) The person in charge of delivery should take the delivery measures after keeping the products in a delivery-waiting place limiting to only the products that have got the judgment of acceptance as the result of delivery inspection.
- (6) The person in charge of purchase, material should stock in the warehouse, only the lot that has got the judgment of acceptance as the result of import inspection on outsourcing processed, leased articles.
- (7) The inspector handles the products that have got the judgment of acceptance according to the test, inspection results of a certified public authority for test outside the company, in compliance with the above article,(1),(4).

### 6.2 Handling of Unqualified Products

- (1) The person in charge of purchase, material should return the unqualified products to the supplier as the result of import inspection, or should keep them in a designated place with the mark of unqualified products and should comply with the procedure for handling the unqualified products.
- (2) The person who found the unqualified products as the result of process checking and process inspection, should keep them in a designated place with the mark of unqualified status or products, and should handle the products that are judged as unqualified according to the results of attendance inspection or certified public inspection in compliance with the unqualified article procedure and the article 6.5(re-inspection and test).

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- (3) The unqualified articles as the result of final inspection comply with the unqualified article control procedure.
- (4) The unqualified articles as the result of delivery inspection comply with the unqualified article control procedure.

### 6.3 Record and Marking-Up of Inspection Results and Status

- (1) The tester, inspector should prepare the results in documents and maintain with the record, and should mark up as either qualified or unqualified for the pertinent lot or each article as the result of test, inspection, according to the procedure for inspection and test status.
- (2) The certificate or data issued by the supplier of raw material or outsourcing company should be kept and maintained.
- (3) The use of code material for unapproved raw material complies with the procedure for the product identification and trace-ability control procedure.

### 6.4 Issue of Certificate and Authentication for Material

- (1) When delivering the code products, the company should provide CMTR or C of C (QP13-09) for materials according to the provision, and also provide all the certificates that are received from other material company to the purchaser.
- (2) This is to certify that the contents of CMTR or C of C are correct and precise, and all the test results and work executed by the company or the suppliers of the company satisfy the specific requirements for material size and code.
- (3) CMTR Preparation and Requirements
  - a. For code material, the record tested in the company, certificate no. customer name, order no, KEA certificate no and its expiration date should be recorded in addition to the recorded matters of raw material certificate.  
The company should record the revision no and date of KSHP quality manual approved by the customer, when the customer requested in particular.
  - b. The company should confirm the inspection in CMTR, test record, marking status of products and should record in the movement table of manufacture process for the control of certificate and product trace-ability in case the products made of code material are delivered.
  - c. The company should record in CMTR, all the contents of chemical analysis value, the actual results of test and inspection that are requested in code, or should record the pertinent certificate no with attaching the related certificate, and should review if the results satisfy the requirements of KEPIC-MN/ASME.III, using CMTR check list, and in this case, head of quality assurance approves and is responsible for this.

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- d. When outsourcing the work of required chemical analysis(including boiled melting), heat treatment, inspection, test or correction, the company should record the certified no of supplier that is approved for the executed work or the contents in the material certificate, and should provide the certificate of the supplier together with the material certificate.
- e. The matters that are not executed in chemical analysis, test, inspection and heat treatment requested by the material standard, should be mentioned in CMTR or C of C, or in the attached documents.
- f. When the specific time and temperature(temp. range) for heat treatment are requested in the material standard, the kind, temperature, time of heat-treated status should be recorded. In case of austenite stainless steel or high nickel alloyed steel, the temperature of solution annealing should be recorded.
- g. When unapproved raw material was used after the approval, it should be specified that the material was certified according to ASME NCA-3855.5 and/or KEPIC MNA 4345.4.

(4) Material Confirmation Sheet (C of C : QP13-09)

- a. For the fittings of nominal bore under 3/4", the company can attach the material confirmation sheet, verifying that they are manufactured, satisfying the requirements of material standard, grade, class, heat-treatment conditions instead of CMTR.
- b. Maintaining the trace-ability for heat or lot for the material confirmation sheet, is not required, and the identification mark for targeted material should be recorded.

(5) The material that modified the product shape, should certify that it meets the material standard of KEPIC-MN/ASME.III.

(6) All the certificates received from other material company or approved supplier should be presented to the purchaser in delivery if the purchaser requests.

(7) Inspection Certificate (QP13-12)

- a. When warehousing the raw materials, the person in charge of import inspection controls by inputting the record of certificate issued by the material manufacturer in the electronic data processing system of QC department.
- b. When delivering the products, the company should issue the inspection certificate in principle, and keeps the original copy or one of duplicated copies.
- c. Certificate no, customer name, order no, physical property, chemical ingredients, material size, grade, raw material heat no, raw material maker, and heat-treatment conditions, etc. should be recorded in the inspection certificate.

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(8) C of C (QP13-10)

When the customer requests for the issue of C of C, the company should record as in the attached form. (not for code)

(9) Authorizer

The approval of material is conducted by the head of quality assurance department, but, in his absence, the junior staff next to him approves it.

6.5 Re-inspection and Test

(1) When the materials or products that are judged as unqualified, should be re-worked for repair or be selected, the company should test, inspect according to the above inspection procedure. In case of the materials or products that lost the trace-ability for the material on account of material mixing, the company should select or dispose by conducting the ingredient analysis for all quantity by the qualified inspector.

(2) The repairer or re-worker should not conduct the judgment of acceptance or rejection on his own.

6.6 Urgent Delivery

(1) When the articles were purchased urgently in the course of production, thereby having no time to conduct the import inspection, the person in charge of purchase, material should record the urgent delivery in the blank of pertinent item in the transaction statement, and notify the inspector.

(2) The inspector who received the notification should attach the tag of urgent delivery(QP13-13) to the pertinent lot or articles, and supply to the field.

(3) When the articles of urgent delivery supplied to the field are found to be deviated from standard, or found to have any problems in the course of use, the worker should stop the use and notify the inspector with keeping them in a separate storage by marking up of the unqualified articles.

In this case, the unqualified articles should be handled according to the procedure of the unqualified article procedure.

(4) The person in charge of proceeding the process who uses the urgently delivered articles, should notify the inspector of the judgment of acceptance or rejection for the results of use. In this case, the inspector should record, maintain in transaction statement and import inspection history card (QP13-15-1) according to the results.

7. Caution in judgment

7.1 When conducting the judgment of acceptance or rejection, the inspector should judge the test value in compliance with the pertinent drawings or inspection standard with comparing the value with the judgment standard.

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When the pertinent standard is not yet established, the company should utilize the national standard, organization standard, limitation standard, etc, and if the field test is needed for objective judgment, the company should conduct the judgment after the field test.

7.2 When it is difficult for the inspector to conduct the judgment of his own, he should handle it according to directions of QA department head.

7.3 The tester, inspector should not conduct the subjective wrong judgment according to general common sense or personal considerations.

7.4 In the inspection standard, the judgment, standard of judgment, quantity of test piece, the results of judgement, etc. should be specified.

## 8. Record and Keeping

Form Name	Form NO.	Keeping/Preservation(Year)	Keeping Dept.
Test and Inspection Plan Control Register	QP13-01	Permanent	Q.A
CMTR & Material Checklist	QP13-02	Permanent	Q.A
Check Sheet for Unapproved Material Use	QP13-03	1 / 10	Q.A
Tag of Qualified Articles	QP13-04	-	-
Process Inspection Sheet	QP13-05	1 / 3	Q.A
Final Inspection History Card	QP13-06	1 / 3	Q.A
Final Inspection Certificate	QP13-07	1 / 3	Q.A
Request for Delivery Inspection	QP13-08	1 / 3	Q.A
CMTR	QP13-09	Permanent	Q.A
C OF C	QP13-10	1 / 10	Q.A
Tag of Unqualified Article	QP13-11	-	-
Inspection Certificate	QP13-12	1 / 3	Q.A
Urgent Delivery	QP13-13	-	-
Import Inspection Certificate	QP13-14	1 / 3	Q.A
Import Inspection History Card	QP13-15	1 / 3	Q.A

## 9. Related Documents

- (1) Product Standard ( K - QS - P - 01 )
- (2) Inspection Standard ( K - QS - I - 01 )
- (3) Carbon Steel Raw Material Standard ( K - QS - R - 01 )
- (4) Alloyed Steel Raw Material Standard ( K - QS - R - 02 )
- (5) Stainless Steel Raw Material Standard ( K - QS - R - 03 )
- (6) Unqualified Article Control Procedure ( KSQP-15 )
- (7) Process Control Procedure ( KSQP-11 )

10. Additional Clause This procedure shall be enforced in general from Aug. 1, 2003.

Attached Table #1

# Qualification Selection Evaluation Table

## for

## Inspector

Name		Position		Evaluation Results
Final Academic Background		Date of Entrance in Company		<input type="checkbox"/> : A <input type="checkbox"/> : B <input type="checkbox"/> : C
Major Career		Evaluation Date		



Classification	Evaluation Item	Evaluation Point	Evaluation Method	Selection Evaluation Standard
Educational Background	(1) Graduate of High School (2) Graduate of over Junior College in Science and Engineering (3)	2 3	Evaluation only on the pertinent items among items (1),(2)	Evaluation
Career	(3) 6 months or more of experience in test,measurement, inspection (experience in other company is included) (4) 6 months or more of experience in field (5) (4) 6 months or less of experience in field (5) second class and up of Q.C engineer qualification (5) holder of professional technology qualification	3 1 0.5 1 0.5	Item(3)can be evaluated if it is pertinent only one of items(4),(5) is evaluated after selected.	A : 12points or more B : 10points or more C : 9points or more
Quality	(2) (6) The person with ability of handling the equipments of test, measurement, inspection (7) The person with ability of recording and reporting	1 1	Items (6),(7)are evaluated respectively	Selection Standard : B grade and up can be selected and C grade and down cannot be selected
Eyesight	(2) (8) corrective eyesight of 0.6 or more (9) The person who is not astigmatic and color-blind	1 1	Items(8),(9) are evaluated respectively	
Education	(3) (10) The person who finished the Q.C education, such as test, measurement, inspection, etc. (10) The person who finished the Q.C education, such as test,measurement, inspection, etc. in company (10) The person who finished the education, such as IE, Q,C, etc in junior college and up	3 2 3	Only one of items(10) is evaluated after selected	
<b>Total Evaluated Points</b>				
We hereby evaluate and select as above-mentioned.				
Evaluator			Seal ㊟	

Attached Table # 1 Mark Up of Acceptance(Acceptance Stamp) Attached Table # 2 Mark Up of Rejection(Unqualifying Stamp)

[사내규격 절차서 9-16](#)

[사내규격 절차서 9-19](#)

[시험 측정검사 자격선정](#)



<b>K S H P</b> KEON SAE HIGH PRESSURE CO., LTD.		<b>CMTR &amp; MATERIAL CHECKLIST</b>			CMTR NO.	
					PAGE	1 OF 2
P/O NO.		VENDOR NAME				
MATERIAL DESCRIPTION		SPEC : CLASS :	GRADE : SIZE :	TYPE : <input type="checkbox"/> BAR <input type="checkbox"/> OTHERS <input type="checkbox"/> PIPE & TUBE		
APPLICABLE CODE	<input type="checkbox"/> NB <input type="checkbox"/> NC <input type="checkbox"/> ND <input type="checkbox"/> NE <input type="checkbox"/> NF <input type="checkbox"/> NG <input type="checkbox"/> MNB <input type="checkbox"/> MNC <input type="checkbox"/> MND <input type="checkbox"/> MNE <input type="checkbox"/> MNF <input type="checkbox"/> MNG					
CODE EDITION		ADDENDA				
		CASE NO.				
ITEM TO BE CHECKED						
NO.	ITEM	REFERENCE	RESULTS			COMMENTS
			ACC	REJ	NA	
1.	M·O NAME	P-1200(a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	QSC NO EXPIRATION DATE	P-1200(b) MNA-4345.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.	KEON SAE PO NO / CONTRACT NO	P-1200(c) MNA-4345.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.	MATERIAL DESCRIPTION <input type="checkbox"/> SPEC <input type="checkbox"/> GRADE <input type="checkbox"/> CLASS <input type="checkbox"/> TYPE <input type="checkbox"/> NOMINAL SIZE	P-1200(d)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.	MATERIAL ID MARKING <input type="checkbox"/> APPLICABLE SPEC <input type="checkbox"/> GRADE <input type="checkbox"/> HEAT NO / HEAT CODE	P-1200(e) (NCA-3856.3) (MNA-4350)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.	MODIFICATION MARK "*"	(NCA-3856.3) (MNA 4353)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.	CHEMICAL ANALYSIS	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.	PRODUCT ANALYSIS	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9.	TENSILE TESTS	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10.	IMPACT TEST	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11.	HARDNESS	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE : MARK THE SQUARE BOX WITH A "V" ACC ( ACCEPT ) REJ ( REJECT ) NA ( NOT APPLICABLE )			REVIEWED BY _____			

K S H P KEON SAE HIGH PRESSURE CO., LTD.		CMTR & MATERIAL CHECKLIST			CMTR NO.	
				PAGE	2 OF 2	
ITEM TO BE CHECKED						
NO.	ITEM	REFERENCE	RESULTS			COMMENTS
			ACC	REJ	NA	
12	REPAIRED WELDING	P-1200(h)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	NONDESTRUCTIVE EXAM (NDE)	NX-2500 MNX-2500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	HEAT TREATMENT	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	a) TEMPERATURE ( OR RANGE )	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	b) HEAT TREATMENT CONDITION	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	c) MINIMUM SOLUTION ANNEALING TEMPERATURE ( AUSTENITIC STAINLESS STEEL )	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	CERTIFICATION STATEMENT	NCA-3861(1) MNA-4390	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	ACTIVITIES NOT REFORMED	NCA-3861(2) MNA-4390	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	EXPLANATION OF MARKING SYMBOL OR CODE	NCA-3856.3(c) MNA-4353	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	PIPE & TUBE <input type="checkbox"/> SEAMLESS <input type="checkbox"/> WELDING	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19	HYDROSTATIC PRESSURE TEST IF REQUIRED MT'L SPEC.	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	QA MANUAL REVISION & DATE	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21	LEGIBILITY	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22	ATTACHMENTS ARE AVAILABLE	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23	FLATTENING	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24	OTHERS	APPLICABLE METAL SPEC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## check sheet for non-approved material use

*customer : *material: *CHECKLISTNO:	* Date : . . . . . *import inspection no.: *inspector :
--	---

requirements	YES	NO	Related Documents	REMARK
1. Isn't the welding conducted using the 용가재(?) 2. Are the non-approved raw material and the certificate provided? 3. Is the pertinent certificate of non-verified raw material traceable? 4. Did the company request the supplier of non-verified raw material to establish the procedure for tracing the non-verified raw material and the certificate and acquire the approval of our company in the purchase specification? 5. Did the person in charge of import inspection confirm the requirements in the purchase specification after reviewing the evidencing documents?				

Qualified Article	
Item and Size	
Material	
Qty	
Inspection Confirmation	

QP13-04(REV.0)



Qualified Article	
Item and Size	
Material	
Qty	
Inspection Confirmation	

QP13-04(REV.0)



Unqualified Article	
Item and Size	
Material	
Qty	
Inspection Confirmation	

QP13-11(REV.0)



Unqualified Article	
Item and Size	
Material	
Qty	
Inspection Confirmation	

QP13-11(REV.0)



















Urgent Delivery	
Item	
Size	
Material	
Qty	
Warehousing Date	
Remarks	

QP13-13(REV.0)



Urgent Delivery	
Item	
Size	
Material	
Qty	
Warehousing Date	
Remarks	29634

QP13-13(REV.0)



Urgent Delivery	
Item	
Size	
Material	
Qty	
Warehousing Date	
Remarks	

QP13-13(REV.0)



Urgent Delivery	
Item	
Size	
Material	
Qty	
Warehousing Date	
Remarks	

QP13-13(REV.0)



Outsourcing	inspection	review	approval	Import Inspection Certificate					Approval	inspection	review	approval
issue no.					customer							
inspector					inspection date							
inspection method		shape : G1, 1.0			item & material							
		size: S-1, 2.5 (나사: S-4, 1.0)			Qty							
NO	inspection item	Size Value	n	C/AC						결 과		
					X1	X2	X3	X4	X5			
1												
2												
3												
4												
5												
Special Remarks :										Total Judgment		
* For general standard article, the inspection can be conducted with the sample test quantity(n) of 3 EU on the sample quantity of under 100EU.												





