



May 15, 2018

Name of the company: Tsubakimoto Chain Co.
Code number: 6371
Stock exchange listings: Tokyo
URL: <http://tsubakimoto.com/>
Representative: Yasushi Ohara, President and Representative Director
Inquiries: Kenji Kawai, Manager, Corporate Communications Department
Tel +81 (6) 6441-0054

Misconduct in the Quality Inspection Process at Our Subsidiary

We have become aware of the misconduct in the quality inspection process for some cast products manufactured by Tsubakimoto Iron Casting Co. (hereinafter called Iron Casting), a consolidated subsidiary of the Tsubakimoto Chain Co.

We sincerely regret this occurrence, and we deeply apologize for the inconvenience and disruption that have caused much trouble and concern for our customers and stakeholders.

Below we present an outline of our report on this issue.

1. Outline of the Subsidiary

- (1) Company name: Tsubakimoto Iron Casting Co. (our wholly owned subsidiary)
- (2) Location: 20, Shinko, Hanno, Saitama (inside our Saitama Plant)
- (3) Representative: Sadayuki Nagatomo, President and Representative Director
- (4) Scope of business: Manufacture and sale of small cast parts
(Fiscal 2017 sales: 1.9 billion yen)

2. Facts of the Incident

- (1) Products in question: Spherical graphite cast iron products (hereinafter called FCD),
CV graphite cast iron products (hereinafter called FCV),
and FC 300 among grey cast iron products
- (2) Number of companies that received the products in question: 22 companies
- (3) Outline of the misconduct:

On July 24, 2017, as a result of an in-house investigation performed by Iron Casting Quality Assurance Department, the following misconduct was detected in the tensile strength test performed with a separate cast test piece from a different casting* for confirming tensile strength and elongation, one of the quality control items.

a. Application of improper data into the inspection results table

The tensile strength test of the test piece was not conducted in time to meet the delivery date; therefore, data from a previous test was entered into the inspection results table and submitted to some customers.

b. Tampering with partial inspection result data

When the results of the tensile strength test did not satisfy the standard, a falsified value was entered into the internal quality record.

Quality control items other than tensile strength and elongation (including components, hardness, graphite spheroidization ratio and structure, and completed product inspection, etc.) were correctly inspected using the product.

* Since it is difficult to conduct a tensile strength test on the small cast parts itself, separate test pieces are produced from the same molten metal as the corresponding product. These are processed into a prescribed shape of specific dimensions and are used for the tensile strength test.

3. Effect on Our Customers

- (1) With regard to the products covered by this report, we analyzed the records of other quality control items in the casting processes of the products in question and have determined that our customers' quality standards have been satisfied.
- (2) We have explained the situation to those customers. In addition, we are deliberating on the issues raised by our customers with great concern and will respond appropriately.

4. Our Response to This Incident

(1) Corrective measures regarding castings

Immediately after this incident was uncovered, we implemented the following corrective measures. (1) shortening the test period and stabilizing the test by improving the processing and testing method for the test piece, and (2) revising the procedure for releasing the inspection results table and disseminating it thoroughly.

We can assure our customers that products shipped on and after August 1, 2017, have undergone proper quality control during manufacturing.

(2) Quality inspection of shipped products

As delivery of the products in question was limited to 22 companies, we placed top priority on verifying the quality of the shipped products and explaining the situation to those customers who had purchased these products.

(3) Other products of Iron Casting

After verification of the quality inspection process for Iron Casting other products, it was determined that the inspection results exceeded the standard, and met a quality standard satisfactory to the customer, although some delays in tensile strength testing were encountered.

(4) Response of the Tsubaki Group

In response to this situation, we established an in-house investigation committee with the participation of lawyers and independent officers, determined the facts of the case, investigated the cause, verified corrective measures, and proposed measures to Iron Casting in order to prevent a recurrence of this issue.

In addition, we conducted in-house investigations of the quality inspection processes for our Group companies, established a new Quality Control Department in our head office effective April 1, 2018, and implemented measures to strengthen quality control throughout our Group.

We take this situation seriously and will continue to take steps to prevent a recurrence while strengthening our quality control measures.

5. Impact on Business Performance

At present, we believe that the impact of this incident on our consolidated financial results will be minimal; however, we will issue an immediate announcement if it becomes evident that this case has had a material financial impact.

Supplementary Data

1. What Is a Casting?

The injection of molten metal into a mold that is then cooled and solidified to form the cast product.

The advantage of this approach is that it becomes possible to easily make one or tens of thousands of units of a particular cast part having a complex shape.

2. Products Manufactured by Tsubakimoto Iron Casting Co.

Type of Part	Material		
Gray cast iron product	FC200, FC250	Cast parts for automobiles	Products in question
	FC300	Cast parts for industrial machinery	
Spheroidal graphite cast iron product	FCD450, FCD500, FCD600, FCD700	Cast parts for automobiles	
CV graphite cast iron product	FCV350	Cast parts for industrial machinery	
Alloy cast iron products	Chromium molybdenum	Cast parts for industrial machinery	

Small cast products
by Tsubakimoto Casting Co.:
Weight 1 kg/unit max.,
average 300 g/unit



Cast parts for automobiles



Cast parts for industrial machinery

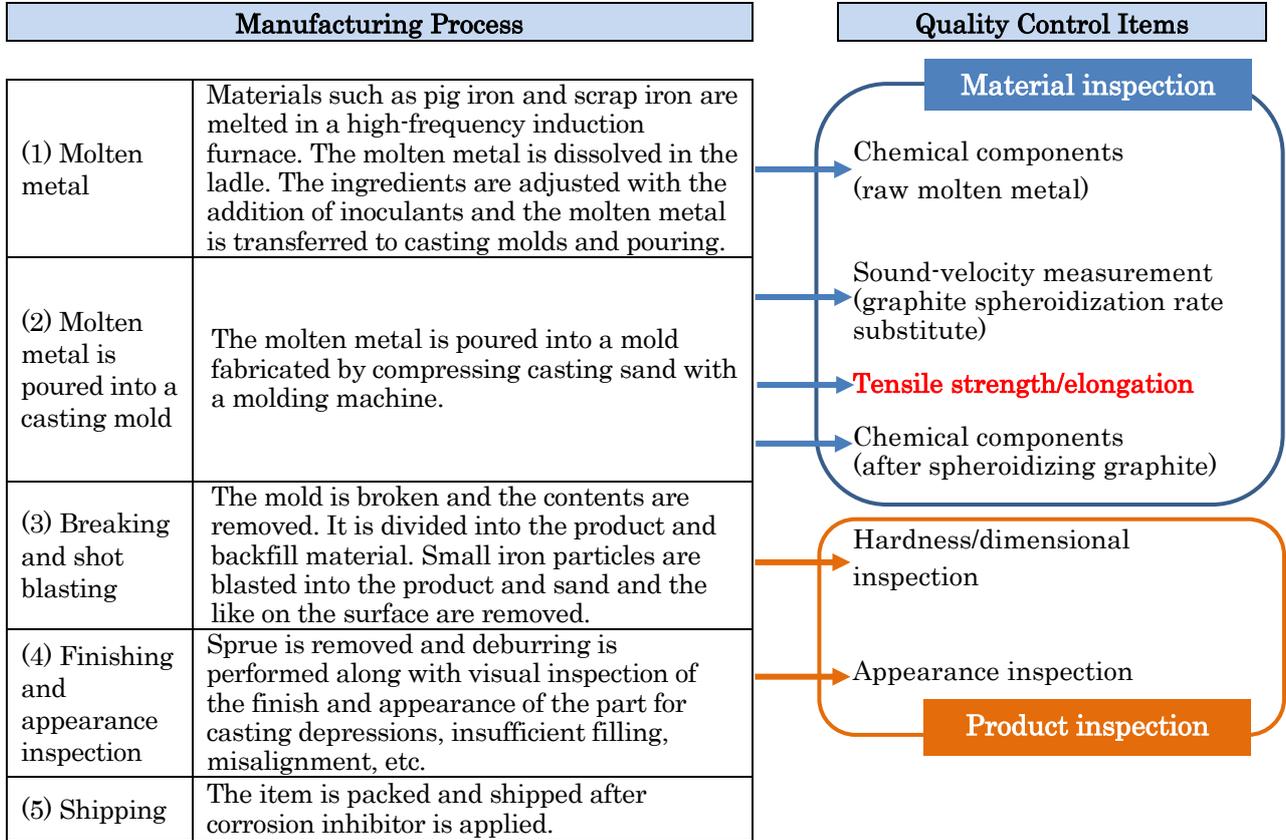
3. Manufacturing Process of Cast Products and Relevant Quality Control Items

Among the following quality control items, the test for tensile strength and elongation is carried out with a separate cast test piece from a different casting.

Specifically, separate test pieces are fabricated of the same molten metal as the corresponding product, processed to the prescribed shape and size, and subjected to tensile strength testing. (Inspections other than testing for tensile strength and elongation use the actual cast product.)

* Reason for using a separate test piece from a different casting:

Since the cast product is a small cast item, it is difficult to manufacture a casting from the product or to cast it at the same time.



4. Test Piece and Product (Example)

