CLAIMS

1. A flange fastening managing method in which a computer as well as a fastening tool are used, the fastening tool fastening flanges with a gasket by a plurality of bolts and nuts, the gasket being sandwiched between the flanges, the method comprising the steps of:

acquiring fastening condition information associated with the flanges;

acquiring gasket information conforming to the flanges;

collating the gasket information with gasket information representing a gasket to be used, to determine whether the gasket fits the flanges;

setting a fastening condition acquired from the fastening condition information in the fastening tool when the gasket selected fits the flanges and applying a fastening torque from the fastening tool to the bolts or the nuts under the fastening condition;

acquiring, from the fastening tool, the fastening torque applied from the fastening tool to the bolts or the nuts, to evaluate whether fastening of the flanges conforms to the fastening condition; and

stopping a drive of the fastening tool when the fastening of the flanges does not conform to the fastening condition.

2. The flange fastening managing method of claim 1, further comprising the steps of:

presenting fastening result information containing at least the fastening condition and a result of the evaluation in association with the flanges.

3. A flange fastening managing method in which a computer

as well as a fastening tool are used, the fastening tool fastening flanges with a gasket by a plurality of bolts and nuts, the gasket being sandwiched between the flanges, the method comprising the steps of:

acquiring fastening condition information associated with the flanges;

acquiring, from a flange tag, flange information containing gasket information conforming to the flanges;

acquiring gasket information from a gasket or a gasket tag;

collating the gasket information contained in the flange information with gasket information acquired from the gasket or the gasket tag;

selecting a fastening condition from the fastening condition information when the gasket fits the flanges and setting the fastening condition in the fastening tool;

acquiring, from the fastening tool, a fastening torque applied from the fastening tool to the nuts, to evaluate whether fastening of the flanges conforms to the fastening condition;

presenting fastening result information containing at least the fastening condition and a result of the evaluation in association with the flanges; and

stopping a drive of the fastening tool when the fastening of the flanges does not conform to the fastening condition.

4. The flange fastening managing method of claim 1 or 3, further comprising the step of:

outputting presentation information indicative of whether the gasket fits the flanges.

5. The flange fastening managing method of claim 1, 3 or 4, wherein

the evaluation whether the fastening of the flanges conforms to the fastening condition makes during fastening of the flanges.

6. The flange fastening managing method of any one of claims 3 to 5, further comprising the steps of:

acquiring worker information from a worker tag; and

presenting the flange information, the fastening condition, and the result of the evaluation in association with the worker information.

7. The flange fastening managing method of any one of claims 3 to 6, wherein

the flange information contains information indicative at least of a gasket fitting the flanges and of a fastening procedure.

8. The flange fastening managing method of any one of claims 3 to 7, wherein

the fastening condition information contains the flange information and the gasket information.

9. The flange fastening managing method of any one of claims 3 to 8, further comprising the steps of:

forming a gasket from a gasket material; and

attaching, to the gasket, the gasket tag containing information of the gasket.

10. A flange fastening managing system comprising:

a fastening tool that fastens a plurality of bolts and nuts attached to flanges, a gasket being sandwiched between the flanges;

a controller that controls a fastening action of the fastening tool; and

a server that is connected to the controller by wire or wireless, wherein

the controller acquires, from the server, fastening condition information associated with the flanges,

the controller acquires, from a flange tag, flange information containing gasket information conforming to the flanges and acquires gasket information from the gasket or a gasket tag,

the controller collates the gasket information contained in the flange information with the gasket information acquired from the gasket or the gasket tag,

the controller selects a fastening condition from the fastening condition information when the gasket fits the flanges, and sets the selected fastening condition in the fastening tool,

the controller acquires, from the fastening tool, a fastening torque applied from the fastening tool to the nuts, to evaluate whether fastening of the flanges conforms to the fastening condition,

the controller provides, to the server, fastening result information containing at least the fastening condition and a result of the evaluation in association with the flanges, and

the controller stops a drive of the fastening tool when the fastening of the flanges does not conform to the fastening condition.

11. A flange fastening managing program for making a computer implement functions, the computer being used for control of a fastening tool that fastens flanges with a gasket by a plurality of bolts and nuts, the gasket being sandwiched

between the flanges, the functions being:

acquiring fastening condition information associated with the flanges;

acquiring, from a flange tag, flange information containing gasket information conforming to the flanges;

acquiring gasket information from a gasket or a gasket tag;

collating the gasket information contained in the flange information with the gasket information acquired from the gasket or the gasket tag;

selecting a fastening condition from the fastening condition information when the gasket fits the flanges, and setting the selected fastening condition in the fastening tool;

acquiring, from the fastening tool, a fastening torque applied from the fastening tool to the nuts, to evaluate whether fastening of the flanges conforms to the fastening condition;

presenting fastening result information containing at least the fastening condition and a result of the evaluation in association with the flanges; and

stopping a drive of the fastening tool when the fastening of the flanges does not conform to the fastening condition.

12. A flange fastening managing device to be used with a fastening tool that fastens flanges with a gasket by a plurality of bolts and nuts, the gasket being sandwiched between the flanges, the device comprising:

an information acquiring unit that acquires fastening condition information associated with the flanges, that acquires, from a flange tag, flange information containing gasket information conforming to the flanges, that acquires gasket information from a gasket or a gasket tag, and that acquires, from the fastening tool, a fastening torque applied

from the fastening tool to the nuts;

a processing unit that collates the gasket information contained in the flange information with the gasket information acquired from the gasket or the gasket tag, that, when the gasket fits the flanges, selects a fastening condition from the fastening condition information, and that sets the fastening condition in the fastening tool, to evaluate whether fastening of the flanges conforms to the fastening condition; and

an information presenting unit that presents fastening result information containing at least the fastening condition and a result of the evaluation in association with the flanges, wherein

the processing unit stops a drive of the fastening tool when the fastening of the flanges does not conform to the fastening condition.