CLAIMS

1. A seal handling management method in which a plurality of tightening locations are set for flanges holding a gasket therebetween and tightening is performed by providing a bolt and a nut in each of the tightening locations, the seal handling management method comprising:

detecting an axial force on the bolt;

determining a pass count of the tightening location, or the tightening location, by using information on variations in the detected axial force, and information identifying the bolt;

calculating or selecting a torque value that is exerted on the bolt or the nut according to the pass count or the tightening location;

setting the torque value for a tightening tool; and

gradually or continuously modifying an output torque of the tightening tool according to the pass count or the tightening location.

2. The seal handling management method according to claim 1, further comprising:

setting, for the tightening tool, the pass count of the tightening location, or the tightening location.

3. A seal handling management device in which a plurality of tightening locations are set for flanges holding a gasket therebetween and tightening is performed by providing a bolt and a nut in each of the tightening locations, the seal handling management device comprising:

an axial force sensor which detects an axial force on the bolt;

control means which determines a pass count of the tightening location, or the tightening location, by using information on a variation in the axial force detected by the axial force sensor, and information identifying the bolt; calculates or selects a torque value that is exerted

on the bolt or the nut according to the pass count or the tightening location; sets the torque value for a tightening tool; and gradually or continuously modifies an output torque of the tightening tool according to the pass count or the tightening location.

4. The seal handling management device according to claim 3, comprising:

setting means which sets the pass count of the tightening location, or the tightening location, for the tightening tool.

5. The seal handling management device according to claim 3 or 4, wherein the control means is disposed in the tightening tool or disposed separately from the tightening tool and connected by a wired or wireless connection.

6. A seal handling management program for causing a computer to execute and realize:

a function which feeds information in an axial force on a bolt in each of tightening locations that have been set for flanges holding a gasket therebetween;

a function which determines a pass count of the tightening location, or the tightening location, by using information on variations in the axial force, and information identifying the bolt;

a function which calculates or selects a torque value that is exerted on the bolt or a nut according to the pass count or the tightening location;

a function which sets the torque value for a tightening tool; and

a function which gradually or continuously modifies an output torque of the tightening tool according to the pass count or the tightening location.

7. A seal handling management system in which a plurality of tightening locations are set for flanges holding a gasket therebetween and tightening is performed by providing a bolt

and a nut in each of the tightening locations, the seal handling management system comprising:

an axial force sensor which detects an axial force on the bolt;

a tightening tool capable of gradually or continuously controlling an output torque that is applied to the bolt or the nut; and

a controller which is connected by a wired or wireless connection to the tightening tool; determines a pass count of the tightening location, or the tightening location, by using information on variations in the detected axial force, and information identifying the bolt; calculates or selects a torque value that is exerted on the bolt or the nut according to the pass count or the tightening location; sets the torque value for the tightening tool; and gradually or continuously modifies the output torque of the tightening tool according to the pass count or the tightening location.