

CLAIMS:

[Claim 1] A wire bonding system, comprising:

an acquisition unit that acquires information pertaining to a diameter of a pressure-bonded ball where a wire is pressure-bonded to an electronic component by wire bonding, wherein the
5 information pertaining to the diameter of the pressure-bonded ball comprises a pressing amount of a ball portion at a tip of the wire against the electronic component during wire bonding;

a first storage unit that stores the information pertaining to the diameter of the pressure-bonded ball acquired by the acquisition unit;

an inspection unit that inspects quality of wire bonding based on the information pertaining
10 to the diameter of the pressure-bonded ball read from the first storage unit; and

a criterion setting unit that sets an inspection criterion for the information pertaining to the diameter of the pressure-bonded ball,

wherein the first storage unit further stores correlation data indicating a correlation between the pressing amount of the ball portion and the diameter of the pressure-bonded ball,

15 the criterion setting unit sets a threshold value for the pressing amount of the ball portion as the inspection criterion by referring to the correlation data read from the first storage unit, based on preset standard data of the diameter of the pressure-bonded ball,

wherein the inspection unit inspects the quality of wire bonding by comparing the pressing amount of the ball portion acquired by the acquisition unit with the threshold value set by the
20 criterion setting unit.

[Claim 2] The wire bonding system according to claim 1, further comprising a notification unit that notifies an inspection result of the quality of wire bonding in response to the inspection result of the quality of wire bonding from the inspection unit not satisfying a predetermined condition.

25 [Claim 3] The wire bonding system according to claim 2, wherein the notification unit notifies the inspection result of the quality of wire bonding from the inspection unit in association

with information pertaining to a position of wire bonding in the electronic component.

[Claim 4] The wire bonding system according to claim 1, wherein the criterion setting unit sets the inspection criterion for the information pertaining to the diameter of the pressure-bonded ball in response to an information amount of the information pertaining to the diameter of the pressure-bonded ball stored in the first storage unit being equal to or greater than a predetermined amount.

[Claim 5] The wire bonding system according to claim 1, wherein the criterion setting unit specifies the pressing amount of the ball portion corresponding to the standard data by referring to the correlation data read from the first storage unit, based on the preset standard data of the diameter of the pressure-bonded ball, and sets a numerical range including the specified pressing amount of the ball portion as the inspection criterion, and

the inspection unit inspects the quality of wire bonding based on whether the pressing amount of the ball portion acquired by the acquisition unit is within the numerical range set as the inspection criterion.

[Claim 6] An inspection device, comprising:

an acquisition unit that acquires information pertaining to a diameter of a pressure-bonded ball where a wire is pressure-bonded to an electronic component by wire bonding, wherein the information pertaining to the diameter of the pressure-bonded ball comprises a pressing amount of a ball portion at a tip of the wire against the electronic component during wire bonding;

a first storage unit that stores the information pertaining to the diameter of the pressure-bonded ball acquired by the acquisition unit;

an inspection unit that inspects quality of wire bonding based on the information pertaining to the diameter of the pressure-bonded ball read from the first storage unit; and

a criterion setting unit that sets an inspection criterion for the information pertaining to the diameter of the pressure-bonded ball,

wherein the first storage unit further stores correlation data indicating a correlation between

the pressing amount of the ball portion and the diameter of the pressure-bonded ball,

the criterion setting unit sets a threshold value for the pressing amount of the ball portion as the inspection criterion by referring to the correlation data read from the first storage unit, based on preset standard data of the diameter of the pressure-bonded ball,

5 wherein the inspection unit inspects the quality of wire bonding by comparing the pressing amount of the ball portion acquired by the acquisition unit with the threshold value set by the criterion setting unit.

[Claim 7] A wire bonding method, comprising:

10 a step of acquiring information pertaining to a diameter of a pressure-bonded ball where a wire is pressure-bonded to an electronic component by wire bonding, wherein the information pertaining to the diameter of the pressure-bonded ball comprises a pressing amount of a ball portion at a tip of the wire against the electronic component during wire bonding;

a step of storing the acquired information pertaining to the diameter of the pressure-bonded ball in a first storage unit;

15 a step of inspecting quality of wire bonding based on the information pertaining to the diameter of the pressure-bonded ball read from the first storage unit;

a step of setting an inspection criterion for the information pertaining to the diameter of the pressure-bonded ball, and

20 a step of storing correlation data indicating a correlation between the pressing amount of the ball portion and the diameter of the pressure-bonded ball in the first storage unit,

wherein in the step of setting the inspection criterion, setting a threshold value for the pressing amount of the ball portion as the inspection criterion by referring to the correlation data read from the first storage unit, based on preset standard data of the diameter of the pressure-bonded ball,

25 wherein in the step of inspecting quality of wire bonding, inspecting the quality of wire bonding by comparing the pressing amount of the ball portion acquired with the threshold value set in the step of setting the inspection criterion.

[Claim 8] A program for one or more computers to execute:

a process of acquiring information pertaining to a diameter of a pressure-bonded ball where a wire is pressure-bonded to an electronic component by wire bonding, wherein the information pertaining to the diameter of the pressure-bonded ball comprises a pressing amount of a ball portion at a tip of the wire against the electronic component during wire bonding;

a process of storing the acquired information pertaining to the diameter of the pressure-bonded ball in a first storage unit;

a process of inspecting quality of wire bonding based on the information pertaining to the diameter of the pressure-bonded ball read from the first storage unit;

a process of setting an inspection criterion for the information pertaining to the diameter of the pressure-bonded ball, and

a process of storing correlation data indicating a correlation between the pressing amount of the ball portion and the diameter of the pressure-bonded ball in the first storage unit,

wherein in the process of setting the inspection criterion, setting a threshold value for the pressing amount of the ball portion as the inspection criterion by referring to the correlation data read from the first storage unit, based on preset standard data of the diameter of the pressure-bonded ball,

wherein in the process of inspecting quality of wire bonding, inspecting the quality of wire bonding by comparing the pressing amount of the ball portion acquired with the threshold value set in the process of setting the inspection criterion.