

ABSTRACT

WAFER APPEARANCE INSPECTION DEVICE AND METHOD

Provided is the wafer visual inspection apparatus and method capable of performing
5 inspection according to a complete chip even for an incomplete chip formed over an
inspection region and a non-inspection region on a wafer if the incomplete chip is in the
inspection region of the wafer and obtaining a desired inspection result for the entirety of the
inspection region of the wafer. Specifically, In the wafer visual inspection apparatus and
method for capturing an image of an inspection target location of a repeated visual pattern of
10 a device chip formed on a wafer to inspect the device chip by comparison with a reference
image, the brightness value of at least one, which is a pixel corresponding to the non-
inspection region, of pixels forming a captured image of the incomplete chip formed over the
inspection region and the non-inspection region is replaced with the brightness value of the
reference image based on positional information on the wafer for which the image has been
15 captured and a chip layout, and in this manner, an inspection image is generated. The
generated inspection image is compared with the reference image, and in this manner, the
inspection target location is inspected.

[Fig. 1]