[CLAIMS]

What is claimed is:

[Claim 1]

A mat slab dismantling method for dismantling a mat slab, comprising:

a cutting step of cutting a cutting region above an intermediate part of a mat slab in a vertical direction,

wherein the cutting step includes

a groove forming step of forming a plurality of grooves extending from an upper end of the mat slab to the intermediate part of the mat slab in the vertical direction along an outer peripheral part of the cutting region,

a core hole forming step of forming core holes having a diameter larger than a width dimension of each of the grooves at positions corresponding to two different points among the plurality of grooves to a depth reaching a bottom of the groove,

a wire saw device installing step of installing a pulley in each of the two core holes, installing an intermediate portion in a longitudinal direction of a wire saw so as to surround the cutting region along the groove, winding the wire saw around the two pulleys, and pulling out both end portions of the wire saw in the longitudinal direction above the mat slab through the core holes, and

a bottom cutting step of pulling the wire saw upward from both ends and moving the wire saw along the bottom of the cutting region to cut the cutting region, and

wherein the groove forming step is performed after the core hole forming step, and

includes a first groove forming wire saw device installing step of installing the pulley at a first position at a bottom of each of the two core holes, disposing the wire saw at an upper end of a groove formation region of the mat slab where the groove is formed

and along a position corresponding to a first edge on a first side in a width direction of the groove, extending the wire saw downward from both ends in the longitudinal direction of the first edge through the two core holes, winding the wire saw around the pulleys, and extending the wire saw upward through the two core holes, and pulling out the wire saw above the mat slab;

a first notch forming step of moving a portion of the wire saw disposed along the first edge downward and forming a first notch along the first edge in the groove formation region while pulling a side of the wire saw that is pulled out above the mat slab upward from the pulleys;

a second groove forming wire saw device installing step of installing the pulley at a second position closer to a second side in the width direction of the groove than the first position at the bottom of each of the two core holes, disposing the wire saw at the upper end of the groove formation region and along a position corresponding to a second edge on the second side, extending the wire saw downward from both ends in the longitudinal direction of the second edge through the two core holes, winding the wire saw around the pulleys, and extending the wire saw upward through the two core holes, and pulling out the wire saw above the mat slab;

a second notch forming step of moving a portion of the wire saw disposed along the second edge downward and forming a second notch along the second edge in the groove formation region while pulling the side of the wire saw that is pulled out above the mat slab upward from the pulleys;

a groove formation region cutting step of disposing the wire saw along a bottom of the second notch and moving the wire saw toward a bottom of the first notch to cut the groove formation region from a lower side of the mat slab; and

a groove formation region removing step of removing the groove formation

region after the groove formation region cutting step.

[Claim 2]

A mat slab dismantling method for dismantling a mat slab, comprising:

a cutting step of cutting a cutting region above an intermediate part of a mat slab in a vertical direction,

wherein the cutting step includes

a groove forming step of forming a plurality of grooves extending from an upper end of the mat slab to the intermediate part of the mat slab in the vertical direction along an outer peripheral part of the cutting region,

a core hole forming step of forming core holes having a diameter larger than a width dimension of each of the grooves at positions corresponding to two different points among the plurality of grooves to a depth reaching a bottom of the groove,

a wire saw device installing step of installing a pulley in each of the two core holes, installing an intermediate portion in a longitudinal direction of a wire saw so as to surround the cutting region along the groove, winding the wire saw around the two pulleys, and pulling out both end portions of the wire saw in the longitudinal direction above the mat slab through the core holes, and

a bottom cutting step of pulling the wire saw upward from both ends and moving the wire saw along the bottom of the cutting region to cut the cutting region,wherein a shape of the cutting region in plan view is a rectangular shape,

wherein in the groove forming step, the groove is formed at a position corresponding to an outer peripheral part of the rectangular shape,

wherein in the core hole forming step, the core holes are formed at positions corresponding to both ends of a first side of four sides of the rectangular shape, and

wherein in the wire saw device installing step, the pulley is installed in each of the two core holes, the intermediate portion in the longitudinal direction of the wire saw is installed so as to surround the cutting region along the groove corresponding to three sides other than the first side among the four sides of the rectangular shape, the wire saw is wound around the two pulleys, and both end portions of the wire saw in the longitudinal direction are pulled out above the mat slab through the core holes, and

wherein the groove forming step is performed after the core hole forming step, and

includes

a first groove forming wire saw device installing step of installing the pulley at a first position at a bottom of each of the two core holes, disposing the wire saw at an upper end of a groove formation region of the mat slab where the groove is formed and along a position corresponding to a first edge on a first side in a width direction of the groove, extending the wire saw downward from both ends in the longitudinal direction of the first edge through the two core holes, winding the wire saw around the pulleys, and extending the wire saw upward through the two core holes, and pulling out the wire saw above the mat slab;

a first notch forming step of moving a portion of the wire saw disposed along the first edge downward and forming a first notch along the first edge in the groove formation region while pulling a side of the wire saw that is pulled out above the mat slab upward from the pulleys;

a second groove forming wire saw device installing step of installing the pulley at a second position closer to a second side in the width direction of the groove than the first position at the bottom of each of the two core holes, disposing the wire saw at the upper end of the groove formation region and along a position corresponding to a second

edge on the second side, extending the wire saw downward from both ends in the longitudinal direction of the second edge through the two core holes, winding the wire saw around the pulleys, and extending the wire saw upward through the two core holes, and pulling out the wire saw above the mat slab;

a second notch forming step of moving a portion of the wire saw disposed along the second edge downward and forming a second notch along the second edge in the groove formation region while pulling the side of the wire saw that is pulled out above the mat slab upward from the pulleys;

a groove formation region cutting step of disposing the wire saw along a bottom of the second notch and moving the wire saw toward a bottom of the first notch to cut the groove formation region from a lower side of the mat slab; and

a groove formation region removing step of removing the groove formation region after the groove formation region cutting step.

[ABSTRACT]