WHAT IS CLAIMED IS:

1. A crack detection method comprising:

a crack forming step of applying a laser beam to a plate-shaped workpiece that has a first side and a second side opposite to the first side linearly from the first side with a focal point of the laser beam positioned inside the workpiece, the laser beam being of a wavelength having a transmitting property to the workpiece, to thereby form a modified layer inside the workpiece and further form a crack extending from the modified layer toward the second side;

a coating material applying step of applying a coating material to the second side after the crack forming step is performed; and

a crack detecting step of detecting the crack by searching for a portion where the coating material is linearly repelled.

2. The crack detection method according to claim 1, wherein an oil-based marker is used in the coating material applying step.

3. The crack detection method according to claim 1, wherein in the crack forming step the laser beam is applied to the workpiece with predetermined laser processing conditions, and if lines indicating the cracks

do not continuously appear and the coating material is repelled intermittently, it is recognized that the formation of the cracks is insufficient, then the crack forming step is repeated with different laser processing conditions from said predetermined conditions.

4. The crack detection method according to claim 1, wherein if it is recognized that continuous lines appear without intermittence in a region where the coating material is applied, it is confirmed that the laser processing conditions are appropriate.