ABSTRACT

An evaluation device (10) includes: an acquisition unit (601) that acquires first three-dimensional shape data of a ring-joint-type flange (30); and an evaluation unit (603) that evaluates a state of a ring joint groove formed in a flange surface of the flange based on the first three-dimensional shape data. The evaluation unit (603) includes: a shape measurement unit (611) that measures a plurality of first shape parameters relating to a shape of the ring joint groove; a detection unit (615) that detects a flaw generated in a target region of the ring joint groove; a strain amount measurement unit (617) that measures a first strain amount of a first contact surface of the ring joint groove with which a ring joint gasket (40) comes into contact; and a determination unit (619) that determines necessity of repair of the ring joint groove based on at least one of the flaw, the first strain amount, and the plurality of first shape parameters.