

DEMANETIZING (DE-GAUSS)



In order to perform Magnetic Particle Test, it is necessary for the ferromagnetic test specimen to be magnetized.

Equipments that are commonly used to produce magnetic fields are permanent magnets, electromagnetic yokes, prods or magnetizing units using coil- or head shots. Magnetic field will flow through the specimen, a discontinuity will interrupt the flow of magnetic field and a leakage field will occur when there is a discontinuity, such as crack in the specimen. The indication can then be visually seen with the help of magnetic particles that will be attracted to the leakage field and so, indicate the flaw.

After Magnetic Testing has been done, some magnetic field will still remain in the specimen. This kind of magnetism is called residual or remnant magnetism. Residual magnetism can also exist in parts from operation due to flow or rotation (e.g. shafts or axles). Residual magnetism may cause problems such as abrasion from retained particles, retention of swarf during machining operations, malfunction of instruments sensitive to magnetism, or interference with welding.

In cases where remnant magnetism is expected to cause problems it is important that demagnetization is carried. Equipments used for demagnetization include AC Yoke and MT coil. This process of demagnetizing involves reversing and reducing the applied magnetic field until all remnant magnetism has disappeared.

Gauss is basically the unit of magnetic field strength (magnetic flux density). Gauss meter is the equipment that is used to measure the intensity of magnetic field in a specimen. One gauss is equal to 6.5 magnetic field lines per square inch. When demagnetizing, a gauss meter is used to ensure that the specimen has returned to its normal state with residual magnetism completely removed.

