

GRADE 304 STAINLESS STEEL

Magnetic properties

304 stainless steel is not magnetic except for a short period after it is freshly formed. The 304 alloy becomes magnetic after any cold work.

Cold work means the various stamping, cutting, forming, and surface polishing processes. These processes change the distribution of the alloy's chemical properties and, as a result, they can create magnetism that is atypical of the stainless steel's properties.

*****The magnet test is therefore not an effective way of verifying the integrity of a product made of stainless steel.*****

In fact, steel's nickel and chromium content determines its quality. It must contain more than 18% nickel to be classified 304 grade stainless steel.

It is also common for the different stamping dies used during steel processing to leave iron ion residues on the stainless steel surface. These factors can also cause a change in the steel's properties, thus creating magnetism. The same iron ion residues may eventually oxidize and cause minor rust to form on the surface of the product, but this does not affect product integrity.