



Aluminum

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Description

Color: Silvery-white.



Characteristics: Aluminum has low density and low weight, very malleability, easy machining, very good corrosive resistance, good thermal and electrical conductivity, flexible.

Spark: Aluminum does not create a spark because it too soft.

Non-ferrous: Aluminum is non-ferrous because it's not magnetic, does not contain iron, and more resistant to corrosion.

Oxidize: Aluminum is a very reactive metal, but it's also a passive metal. Aluminum reacts with oxygen or water and forms a coherent surface oxide.

Conductivity: Aluminum does conduct electricity pretty well; 2x as much as copper. But aluminum does oxidize and aluminum oxide is not conductive. Its electrical conductivity is 36,9 and the electrical resistance is 2,7.

Malleability: Something to be able to be hammered out of shape without breaking. Aluminum is very malleable, it can be bend and be hammered into other shapes without breaking.

Ductility: Able to be pulled out into a thin wire. Aluminum is a very soft and bendable metal.

Chip Characteristics: smooth, sawtooth edges, can be cut as a continuous strip.

Weldability: use GTAW or GMAW.

<https://www.azom.com/article.aspx?ArticleID=1435>

https://www.reddit.com/r/askscience/comments/3p0x5x/why_doesnt_aluminium_spark/

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<http://www.totalmateria.com/page.aspx?ID=CheckArticle&site=ktn&NM=187>

<http://enginemechanics.tpub.com/14119/Table-6-5-Identification-Of-Metals-By-Chip-Test-192.html>

<http://www.thefabricator.com/article/aluminumwelding/weldable-and-unweldable-aluminum-alloys>