

Standard Stainless Steel Additive Elements

Element	Effect
Aluminum	Deoxidizes and restricts grain growth.
Boron	Increases hardenability.
Carbon	Increases hardenability and strength.
Chromium	Increases corrosion resistance, hardenability and wear resistance.
Lead	Increases machinability.
Manganese	Increases hardenability and counteracts brittleness from sulfur.
Molybdenum	Deepens hardening, raises creep strength and hot-hardness, enhances corrosion resistance and increases wear resistance.
Nickel	Increases strength and toughness.
Phosphorus	Increases strength, machinability, and corrosion resistance.
Silicon	Deoxidizes, helps electrical and magnetic properties, improves hardness and oxidation resistance.
Sulfur	Increases machinability, but damages hot forming characteristics.
Titanium	Forms carbides, reduces hardness in stainless steel.
Tungsten	Increases wear resistance and raises hot strength and hot-hardness.
Vanadium	Increases hardenability.