



## 904L Stainless Steel

904L stainless plate, round and flat bar

### 904L stainless steel stockholders and suppliers, delivering throughout the UK.

904L: grade is an austenitic stainless steel specification offering moderate to high corrosion resistance. Its high alloy composition offers good resistance to pitting and corrosion in a wide range of environments. The low carbon content of 904L improves its welding characteristics. The chromium, molybdenum and nickel contents of 904L provide a better chloride pitting corrosion resistance than that of [316](#) stainless in many environments.

### Related Specifications

1.4539 BS EN 10088 1 3 EN 10272 NACE MR0175  
UNS ASTM A182 UNS ASME AISI 904 N08904

### Alternative stainless steel grades we supply

[17/4PH](#) | [FV520B](#) | [S31254](#) | [321](#) | [316](#) | [310](#) | [304](#)  
[440B](#) | [440C](#) | [420](#) | [410](#) | [416](#) | [431](#) |

### Form of Supply

West Yorkshire Steel are suppliers and stockholders of round bar, sheet and plate in 904L stainless steel. Diameters can be supplied bandsaw cut to your requirements. Ground 904L stainless steel bar can be produced, providing a high quality precision ground stainless bar to your tight tolerances. Also available in plate which can be supplied as 904L plasma cut pieces.



- Flat
- Diameter
- Plate

Contact our experienced sales team who will assist you with your 904L enquiry.

## Applications

904L is widely used in the chemical, pharmaceutical, oil and gas industries. Typical applications include tanks, valves, heat exchangers, flanges and manifolds. The addition of copper to the composition of 904L aids its suitability for components such as tanks and other products used in handling sulphuric and phosphoric acid.

## Analysis

Carbon	0.02% max	Silicon	1.00% max
Manganese	2.00% max	Nickel	23.00-28.00%
Chromium	19.00-23.00%	Molybdenum	4.00-5.00%
Sulphur	0.035% max	Phosphorous	0.045% max
Copper	1.00-2.00%		

## Corrosion Resistance

Where a level of resistance to pitting corrosion better than 316 is required 904L may be suitable. With its high nickel content at 25% it offers improved resistance to chloride stress corrosion cracking compared to other austenitic grades such as 304.

## Welding

904L can be welded using common fusion and resistance methods. A more highly alloyed filler is recommended to give the optimum corrosion properties in the weld. We recommend you contact your welding consumables supplier who should provide you full assistance and information on welding 904L stainless steel.

## Scaling Temperature

The oxidation resistance of a stainless steel is traditionally termed as the scaling temperature. This is the temperature at which the oxidation rate of a stainless steel becomes unacceptably high. The safe scaling temperature for continuous service of 904L is 1000°C. In an oxidising and reducing sulphurous atmosphere the scaling temperature of 904L stainless is lowered.

## Typical Mechanical Properties

Temp °C	Density Kg/m <sup>3</sup>	Mean Coefficient of Thermal Expansion	Modulus of Elasticity kg/mm	Electrical Resistivity Ω mm <sup>2</sup> /m	Specific Heat J/kg l°C
20	8.00	16.1x10-6	19500	0.85	500

## Certification

Stainless steel 904L grade is available with a BS EN 10204 3.1 mill certificate, please request when placing any orders.

## Quality Assured Supply

904L stainless steel is supplied in accordance with our ISO 9001:2015 registration.