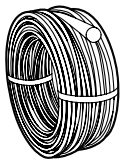
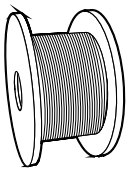
1802 Stainless Free-Cutting Steel Datasheet
Stainless Wire

Zapp is certified to ISO 9001





High-Performance Wire Material
1802 is a ferritic stainless steel combining excellent machinability with high corrosion resistance and weldability. This free-cutting steel has been specially developed for soft magnetic and cold heading applications and out-performs steels of the ASTM 316/316L and 430 types in terms of, for example, machinability and corrosion resistance.

Designed for high cutting speeds, 200 m/minute or higher, and to reduce tool wear, 1802 has the additional benefit of a high quality machined surface finish. When low cutting forces are applied and excellent chip flow is required, improved production economy can be achieved for operations such as grooving, internal turning or drilling.

High Resistance to Stress Corrosion Cracking (SCC)
The optimized chemical composition of 1802 provides corrosion resistance equal to or better than ASTM 316/316L and makes the grade a possible replacement for higher alloyed steels. In particular, 1802 is superior to ASTM 316/316L in chloride containing environments where resistance to stress corrosion cracking (SCC) is important. This contributes to increased end product life in several applications.

SOFT MAGNETIC PROPERTIES
The ferritic structure of 1802 wire provides favourable soft magnetic properties suitable for use as cores in solenoid valves and electromechanical equipment, especially where corrosion resistance is an added requirement. The grade is also used in couplings and valves for different niche applications.

Main characteristics of 1802
_ Excellent machinability
_ High resistance to stress corrosion cracking (SCC)
_ Soft magnetic properties
_ Suitability for cold heading
_ Good weldability
_ Thermal expansion similar to carbon steel

Case in brief
1802 has been selected by an international manufacturer of medical devices for the production of the valve stem in an asthma inhaler, where measured doses of medicine need to be dispensed accurately and consistently.
The combination of the material's three key characteristics; corrosion resistance, high speed machining and cold heading, mean that only 1802 has been able to meet all of the material specification requirements.

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