Selection guide for current alloy types

For selection of the proper type of alloy the particular case of application and the atmosphere must be regarded. Below listed are the typical requested types of alloy with their characteristic attributes.

1.4301

This full austenitic alloy can resist against corrosion at application temperatures   between 700 – 750 °C. Tough the mechanic technologic attributes degrease at higher temperatures the formation of coarse grain might happen. Major temperature fluctuations can cause or increase embrittlement phenomena.

1.4828

This alloy is preferred in the middle temperature range up to 1.000 °C. Because of the low nickel content and the high chromium this alloy is well suited for applications where sulphur attack is to be expected. It is suggested that it shall be used for continuous high temperature applications.

1.4841

This alloy is very popular because of its good strength and oxidation resistance. The maximum temperature of use is up to approximately 1.150 °C. Comparable with the alloy 1.4828 the 1.4841 has a strong liability to the sigma phase embrittlement. Due to its higher nickel content it has ha moderate sulphur resistance.

1.4845

This alloy has similar properties and technical data as 1.4841, but it has a better resistance against the sigma phase embrittlement because of the much lower silicon content. The maximum temperature in use is a little bit lower up to 1.050 °C.

1.4864

This heat resistant alloy can be used up to 1.100 °C in oxidizing atmosphere. The composition of this alloy protects it fully from the sigma phase embrittlement. With the excellent resistance against temperature cycles it can be used in cyclically operated facilities.

2.4851

This nickel alloy can be used by temperature cycles stressing up to application temperatures of 1.200 °C. It is immune to sigma phase embrittlement. Therefore it is often used by high temperatures in combination with temperature cycles by cyclically facilities.