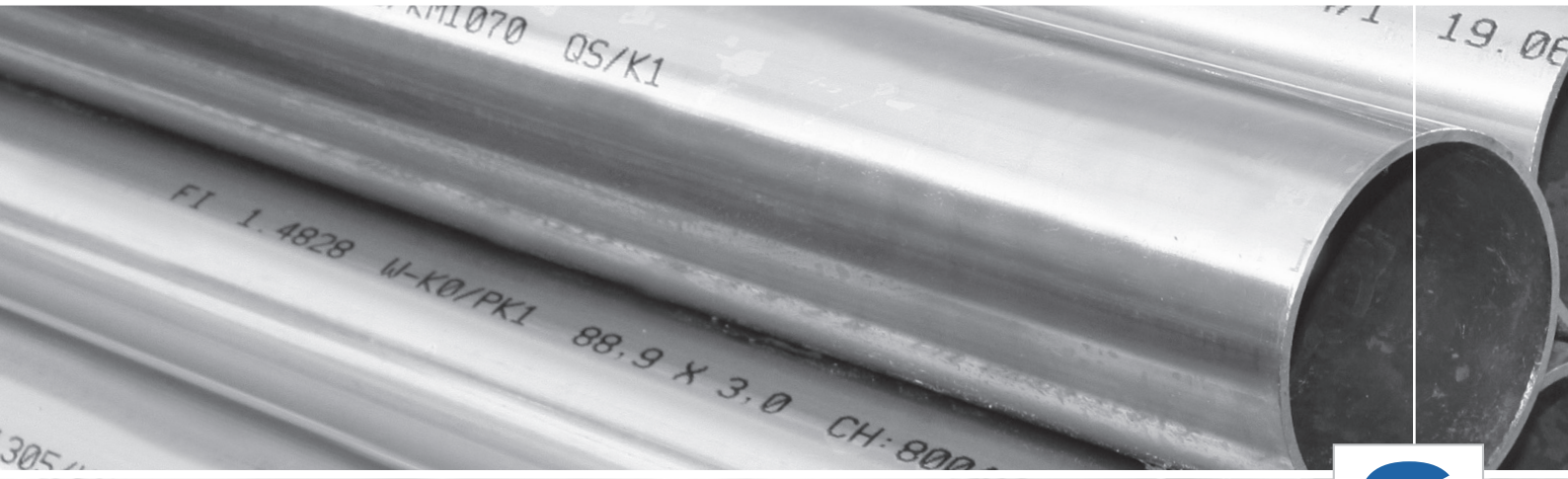
Heatproof, austenitic chromium-nickel steel with silicon additive — 1.4828

C ≤ 0,20 / Cr 19,0 – 21,0 / Ni 11,0 – 13,0 / Si 1,5 – 2,0
1.4828 / X15 CrNiSi 20-12 / DIN EN 10095 / SEW 470
AISI 309 / BS 309 S 24*



Applications

Chemical industry; power stations; mechanical engeneering; environmental technology

Processing techniques

Machining; open-die and drop forging

up to 1000 °C

Scaling resistance ●●●●○

1.4828 is used because of the chemical stability at temperatures not exceeding 950 °C, particularly in a sulphur-containing atmosphere. Limiting temperatures in continuous operation: Oxidising atmosphere: 950 °C; Oxidising sulphur-containing atmosphere: 850 °; Reducing carbon-containing atmosphere: 850 °C; Reducing sulphur-containing atmosphere: 750 °C.

Mechanical properties ●●○○○

Austenitic heatproof materials are characterised by good mechanical properties at temperatures exceeding 550 °C, when subjected both to short- and long-term stress. However, the suitability in each case is determined by the intended load.

Forging ●●○○○

Heating without special precaution to 1150 °C followed by rapid cooling in water or air.

Welding ●●●●○

1.4828 can be welded without difficulty using all processes.

Machining ●○○○○

Owing to the austenitic microstructure, poorer machinability than heatproof, ferritic materials.

Note

Heat treatment is recommended after hot and severe cold forming.

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* See "international comparison of materials"