

ALLOYS WITH SPECIFIC PHYSICAL PROPERTIES

Application Segments

Engineering

Available Product Variants

Long Products

Product Description

BÖHLER P810 is a Fe-Ni-Co alloy with a low and stable coefficient of thermal expansion in the temperature range from -100 to +450°C. Some technical ceramics (e.g. aluminium oxide, aluminium nitride, borosilicate glasses and semiconductor materials) show coefficients of thermal expansion of the same order of magnitude. The alloy is therefore used for metal-glass seals of electronic components, material transitions in vacuum chambers, X-ray tubes, transistor sockets and similar. In the field of microelectronics and microsystems technology, BÖHLER P810 is used as a housing material or as a submount, i.e. an intermediate layer between the actual carrier material and material with a usually significantly higher coefficient of expansion, and serves as a compensating element that absorbs or reduces the thermomechanical stresses caused by the different coefficients of thermal expansion of other materials.

Process Melting

Airmelted

Applications

> Electronic industry

> Mechanical Engineering

Technical data

Material designation		Standards	
NiCo 29 18	Market grade	SEW 385	Others
1.3981	SEL		
NiCo29 18	EN		

Chemical composition (wt. %)

C	Si	Mn	Ni	Co
max. 0.05	max. 0.30	max. 0.50	28.0 to 30.0	17.0 to 18.0

Refers to SEW 385 - 1.3981

Delivery condition

Annealed

Tensile Strength (MPa)	440 to 640
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Round Bars and Wire Rod (if any)

Diameter* mm		
ROLLED		
5.00	-	13.50
15.00	-	125.00
FORGED		
125.10	-	500.00

* Diameter 5.00 - 13.50 mm available as Wire Rod.

Diameter 15.00 - 125 mm available as round bars.

More information regarding MOQ, lengths and tolerances upon request.

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.