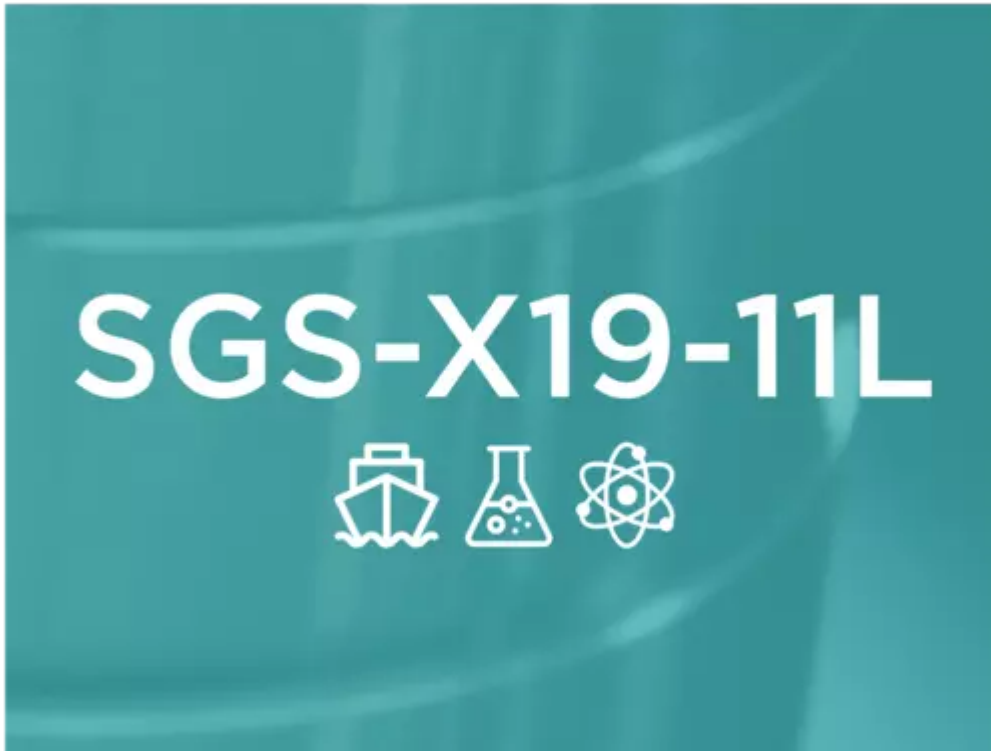


Alloy **SGS-X19-11L**

Austenitic refractory steel with excellent corrosion resistance.



Marketing description

The SGS-X19-11L has a very good corrosion resistance in a wide variety of environments (marine, acid, ...) with a particular resistance to localized and intergranular corrosion.

Very similar to 316L with a slightly higher corrosion resistance.

Designations

SEVA designation: SGS-X19-11L

Standard designation:

AFNOR Z6 CND18.12N
EN GXCrNiMo19-11-2
DIN 1,4409
USA (AISI) 316L

Chemical analysis (in%)

C : ≤ 0.03
Si : ≤ 1.5
Mn : ≤ 2
Ni : 9-12
Cr : 18-20
Mo : 2-2.5

Mechanical properties

Hardness: 140 HB

Tensile tests at room temperature:

Rp0,2 (MPa)	Rm (MPa)	A (%)
200	4450-600	?30

Young's modulus at 20°C : E = 200 GPa

Applications

Areas of use:

- Shipbuilding
- Petrochemicals
- Chemicals
- Nuclear industry
- Food and pharmaceutical industries

Maximum temperature of use:

450°C

Types of parts produced:

Various foundry parts

Standard structure

Austenitic matrix.

Physical properties

Density at 20°C : 7.9g/cm³

Approximate melting range: 1390-1440°C

Expansion coefficient α in 10⁻⁶ /°C:

Temperature (°C)	? (10 ⁻⁶ /°C)
100	15,8
300	17
500	17,7

Other properties

Magnetism: non-magnetic

Thermal conductivity at 20°C : 15 λ W.m⁻¹.K⁻¹

Heat capacity at 20°C : 530 J.kg⁻¹.K⁻¹

PREN : 23-28.5

Production

SEVA produces **SGS-19-11L** alloy in an electric induction furnace under an argon gas protective atmosphere.

Cast in a sand mold.

Compatible processes

	Compatibility	Remarks
Machining	?????	Cutting speed recommended: 30 to 50 m/min
Polishing	?????	
Hot isostatic pressing (HIP)	?????	
Forging	?????	
Welding	?????	

Contact us

Are you looking for high-quality metal alloy foundry blanks for your industrial projects?
Contact us now for a free, no-obligation quote.

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These alloys might interest you

[Image](#)

Alloy SGS-R18-09

EN: GX25CrNiSi18-9 (NF EN 10295)

Economical alternative to SGS-R25-20 alloy at lower temperatures.

23 May 2023

[Image](#)

Alloy SGS-R25-20

EN: X15CrNiSi25-21 (NF EN 10095)

Excellent oxidation resistance due to its chromium content.

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Alloy SGS-625

EN: NiCr22Mo9Nb

Excellent characteristics at high-temperature and good tenacity at very low temperature.

23 May 2023