Marketing description

The **SGS-75** alloy based on nickel and chromium is particularly effective in terms of its resistance to seizure in contact with stainless steels. Its stainless and self-lubricating properties allow it to be used for the production of moving parts in contact with stainless steels, without lubrication, with reduced operating clearance.

Designations

SEVA Designation : SGS-75

Standard designation :
ASTM A494M grade CY5SnBiM

Chemical Analysis

Ni : Bal
C : 0.05 max
Cr : 11-14
Mo : 2-3.5
Si : 0.05 max
Mn : 1. max
Fe : 2 max
Bi : 3-5
Sn : 3-5

Mechanical properties

Hardness: 145 HB

Tensile test at room temperature:

Rp0,2 (MPa)	Rm (MPa)	A (%)
220	300	5

Flexural modulus (Young): 185 GPa

Applications

Areas of use

• Chemistry
• Pharmacy
• Food industry
• Nuclear

Maximum temperature of use

140°C

Types of parts produced

Chemical, pharmaceutical and food industries: applications involving dry friction with stainless steels such as 316 L:
• Rotating or static parts of pumps: rotors, pistons etc.
• Filling systems: rotary valves, dosing sprues etc.
Nuclear industry: bearings and other components for handling systems in hostile environments. Wide range of standard parts available on request: round bars (cylinders) and bushings (hollow bars).

Standard structure

The microstructure of the SGS-75 alloy consists of an austenitic matrix rich in nickel, chromium and molybdenum.
The secondary phase rich in tin and bismuth gives the alloy tribological properties.

Physical properties

Density at 20°C: 8,5

Approximate melting range: 140°C - 1470°C

Chemical properties

	Compatibility	Remarks
Oxidization resistance	?????	Results available to ascertain compatibility at contact with food products depending on environment, temperature and time of exposure.
Inertia	?????	

Other properties

Magnetism: Non-magnetic

Production

SEVA produces the SGS-75 alloy in an electric induction furnace.
Cast in a sand mold.
Heat treatment: none.

Compatible processes

	Compatibility	Remarks
Machining	?????	Vitesse de coupe préconisée : 30 à 50 m/min
Welding	?????	
Surface treatment	?????	

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These alloys might interest you

Image

Alloy SGS-X19-11L

EN : GXCrNiMo19-11-2

Very good resistance to corrosion in a wide variety of environments (marine, acid, etc.).

05 June 2023
Image

Alloy SGS-625

EN: NiCr22Mo9Nb

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

23 May 2023
Image

Alloy SGS-30-55

EN: GX70NiCrW55-30-7

Excellent characteristics at high-temperature: creep, oxidation and corrosion resistance.

23 May 2023