SGS-R25-20

Typical chemical composition (%)

C	Cr	Ni	Si	Mn	Fe
0.12 - 0.18	22 - 27	18 - 22	2 max.	2 max.	Matrix

Normalized designation

AFNOR	EN	DIN	AISI
Z15 CNS 25-20 - M	GX 15 CrNiSi 25-20	1.4841	310

Microstructure

Austenitic with carbide precipitation.

Elaboration

The SGS-R25-20 alloy is melted in an induction furnace with an argon shroud. It is cast in sand moulds or ceramic shells.

Heat treatment

Solution annealing.

Mechanical properties

	Rp 0.2 (MPa)	Rm (MPa)	A (%)
20°C	230	550 - 800	30

Creep resistance

Breaking stress N/mm² (MPa) for :

	600°C	700°C	800°C	900°C
Duration of 10,000 hours	-	40	18	8.5
Duration of 100,000 hours	80	18	7	3

Note : a modification of the chemical composition of the steel can improve the creep resistance and mechanical properties at high temperature. Do not hesitate to contact us for further information.

Hardness

140 - 180 HB.

Machinability

Cutting speed : 70 - 90 m/min (with M-type carbide tooling).

Weldability

Good weldability. Electrode or TIG.

Physical properties

Thermal conductivity at 20°C : 14 $W.m^{-1}.K^{-1}$
Thermal capacity at 20°C : 500 $J.kg^{-1}.K^{-1}$
Thermal expansion coefficient (20°C - 300°C) : 19 10^{-6} K^{-1}

Non-magnetic

Fields of use

Furnace equipment, cement works, metallurgy, petrochemical and glass industries.

The SGS-R25-20 refractory steel provides excellent resistance to oxidation thanks to its high chromium content.
Due to its consistenly good properties at high temperature, this steel meets a wide range of applications.

Contact

Christophe LIEBAUT
«Alloys & Transformation» Manager
Tel. : +33 (0)3 85 47 25 69
Fax : +33 (0)3 85 47 25 99
christophe.liebaut@saint-gobain.com

SAINT-GOBAIN SEVA
43 Rue du Pont de Fer
BP 10176
71105 CHALON-SUR-SAÔNE cedex
FRANCE

www.at-seva.com

htc - November 2008