



AUSTENITIC STAINLESS STEEL ACX 290	
EN DESIGNATION	ASTM DESIGNATION
1.4828	--
X15CrNiSi20-12	--

DESCRIPTION Austenitic stainless steel resistant to high temperatures, with a good behaviour in oxidation media as far as maximum service temperature of 1000°C, it is also highly resistant to carburization and corrosion.

It is a refractory austenitic stainless steel included in the EN 10095 "Heat resisting steels and nickel alloys" standard.

CHEMICAL COMPOSITION

C	Si	Mn	P	S	Cr	Ni	N
≤0.20	1.50 - 2.50	≤2.00	≤0.045	≤0.015	19.00 - 21.00	11.00 - 13.00	≤0.10

APPLICATIONS

- Among others:
- Exhaust systems
 - Furnace components
 - Valves and flanges
 - Air heaters

**MECHANICAL PROPERTIES IN ANNEALING STATUS
EN 100095**

R_{p0.2}	230 N/mm ²
R_m	550 - 750 N/mm ²
Elongation	< 30 %

PHYSICAL PROPERTIES

At 20°C, its density is 7.9 kg/dm³ and specific heat of 500 J/kg·K

EN 10088-1

	20°C	200°C	400°C	600°C	800°C	1000°C
Mean coefficient of linear expansion between 20°C (10⁻⁶ x K⁻¹) to	-	16.5	17.5	18	18.5	19.5
Thermal conductivity (W/m·K)	15	-	-	-	-	-
Electrical resistivity (Ω·mm²/m)	0.85	-	-	-	-	-

WELDING

ACX 290 shows good weldability, it can be welded using most of the usual methods such as SMAW, GTAW, GMAW, FCAW, SAW, LASER, ETC. Filling material should be of the same composition or higher alloys (AISI 309 and 310)

No thermal treatment is usually needed neither before nor after welding.

It is recommended to adjust the welding conditions in order to obtain fast enough cooling speeds to avoid any critical temperature ranges, therefore not to favour sensitization of the material.

The right chemical elements balance when welding is an advantage. Managing the correct selection of the filling material and the welding procedure, will result in fluid metal with some delta ferrite up to 10%.

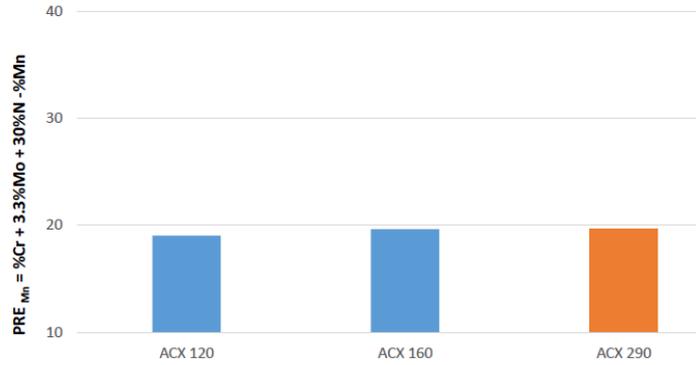
CORROSION RESISTANCE

It has good corrosion resistance at high temperature.

The localized corrosion remains in the range of traditional austenitic types.



Resistance to localized corrosion



SURFACE CLEANING

It is essential to follow some right cleaning practices regularly, in order to preserve the surface indefinitely and obtain the best performance of stainless steel.

For the correct cleaning, it is recommended the use of water and neutral soaps. These should be applied using a soft cloth or brush that do not cause any scratch on the surface. Then, always rinse with water to remove the cleaning agent completely. Finally, it might be dried to preserve a good superficial condition.

If the event of the application of chloride products, it must be followed by deep rinse with plenty of water.

SPECIFICATIONS

The ACX 290 supply is included in the international standards: EN, ASTM, ASME, AMS, QQS, MILS.