



AUSTENITIC STAINLESS STEEL Roldamax® - ACX 076	
EN DESIGNATION	AISI DESIGNATION
1.4305	303
X8CrNiS18-9	



DESCRIPTION ACX 076 is Roldan's own development of AISI 303. It is part of the ROLDAMAX series, which is composed by those steel grades with improved machinability. In addition to its excellent machinability, it has a good corrosion and mechanical strength. The addition of Sulphur improves the chip removal in the processes of cutting and forming, turning, drilling, slotting, or parting, improving the performance of these processes and increasing the lifespan of tools.

CHEMICAL COMPOSITION

C	Si	Mn	P	S	N(ppm)	Cr	Cu	Mo	Ni	Ti
≤0.10	≤1,00	≤2,00	≤0.045	0.25-0.35	≤1000	17.00-19.00	-	-	8.00-10.00	-

APPLICATIONS

Roldamax® ACX 076 steel grade, Roldan's high machinability steel grade, is used in all those elements that need specific properties for their machinability:

- Shafts
- Nuts
- Bolts
- Gears
- Hubs
- Accessories for the automotive and aerospace industries

MECHANICAL PROPERTIES EN 10088-3

	Diam.	Rp _{0,2} (MPa)	Rm (MPa)	Elongation (%)	Hardness (HB)
Wire Rod	≤160	≥190	500-750	≥35	≤230
Hot rolled bar	≤160	≥190	500-750	≥35	≤230
Cold rolled bar	<10	≥400	600-950	≥15	-
	10<Ø≤16	≥400	600-950	≥15	-
	16<Ø≤40	≥190	500-850	≥20	-
	40<Ø≤63	≥190	500-750	≥20	-
	63<Ø≤160	≥190	500-750	≥35	-

PHYSICAL PROPERTIES EN 1088-1

Elastic modulus	Thermal expansion average coefficient (20°C-100°C)	Thermal conductivity	Electrical resistivity	Density
200 Gpa	16 µm/m°C	15 W/m·k	0.73 Ω·mm ² /m	7.9 kg/dm ³

WELDING

The consumables recommended are the following:

Covered electrodes	Wires and rods	Hollow electrodes
E 19 9 L 308L	G 19 9 L (GMAW) W 19 9 L (GTAW) P 19 9 L (PAW) S 19 9 L (SAW) 308L	T 19 9 L 308L

MACHINABILITY

In the Roldamax® series, the addition of Sulphur is used to improve the machinability of austenitic stainless steels. In ACX 076 this improvement is noticed in a higher lifespan of the tools, less roughness in the final finish and higher productivity.

Moreover, ACX 076 presents great homogeneity in its performance regarding the heat. Treatments like the addition of Ca, among others, improve the performance and outputs of ACX 076.



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CORROSION RESISTANCE

This steel grade's corrosion resistance with the addition of Sulphur has been optimized to reach a balance with its machinability.

Its atmospheric corrosion resistance is good although in marine atmospheres or with high pollution, stain issues can appear.

It has a good corrosion resistance under stress conditions.

SPECIFICATIONS

It can be supplied in accordance with the requirements of standards 10088-3 and ASTM 581 for wire and A-582 for bar "Condition: Annealed"

CERTIFICACIONES



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