



MARTENSITIC STAINLESS STEEL ACX 753	
DESIGNACIÓN EN	DESIGNACIÓN ASTM
1.4021	420
X20Cr13	



DESCRIPTION Martensitic steel grades can develop an excellent combination of mechanical strength and hardness through an adequate heat treatment. Besides its ductility, it is a good option for forming and other transformation operations.

CHEMICAL COMPOSITION

C	Si	Mn	P	S	Cr	Ni	N	Cu
0.16-0.25	≤1,00	≤1,50	≤0.040	≤0.030	12.00-14.00	--	--	--

APLICACIONES

- Cutting tools
- Top quality knives
- Cutlery

MECHANICAL PROPERTIES

		Rp _{0.2} (MPa)	Rm (MPa)	Alargamiento (%)	Dureza (HB)
Wire Rod		> 500	700-950	> 13	<230
Bar	+QT700	> 500	700-1100	> 8	<290
	+QT800	650-700	800-1100	> 7	-

PHYSICAL PROPERTIES

Elastic modulus	Average coefficient of thermal expansion (20°C-100°C)	Thermal conductivity	Electrical resistivity	Density
215 Gpa	10.5 μm/m-°C	30 W/m·k	0.60 Ω·mm ² /m	7.7 kg/dm ³

WELDING This grade is not recommended for welding processes, as it would lead to fragile welds with low corrosion resistance.

FORMABILITY ACX 753 has good formability properties, meaning it can be molded, stamped, forged and machined rather easily. Their chemical composition and martensitic crystalline structure provide balanced combination of ductility and resistance. This allows good performance in a variety of production processes, such as cold or hot forming, without significantly compromising its mechanical properties.

However, it is important to take into account that hardness can increase during forming processes, which could later require thermal treatment to restore its optimal properties. Furthermore, adequate selection of tools and processing parameters is key to avoid the formation of cracks or defects during the forming process.

CORROSION RESISTANCE ACX 753 displays moderate corrosion resistance in environments that are not very aggressive. Its corrosion resistance is lower than the provided by austenitic steel grades, especially in highly corrosive environments or in presence of chlorides. Therefore, it is not recommended for marine environments or aggressive chemical industries. In adequate environments, it can offer satisfactory resistance, which makes it useful in a variety of industrial and fabrication applications.

It is important that specific environmental conditions are considered and apply the protective measures as necessary.

SPECIFICATIONS It can be supplied according to international standards EN 10088-3 and ASTM A-276.

HOMOLOGATIONS

