



FERRITIC STAINLESS STEEL ACX 555	
EN DESIGNATION	ASTM DESIGNATION
1.4521	444
X2CrMoTiNb18-2	S44400

DESCRIPTION ACX 555 is a low carbon variation of ACX 500 with addition of molybdenum, titanium and niobium. This steel has better pitting and intergranular corrosion resistance than conventional ferritic and austenitic stainless steels. It has good ductility and hardness properties, as well as sensitization resistance in welding works.

CHEMICAL COMPOSITION	C	Si	Mn	P	S	Cr	Ni	Mo	Cr	Ti	Nb
	≤0.025	≤1.00	≤1.00	≤0.040	≤0.015	17.50-19.50	≤1.00	1.80-2.50	≤1.00	≥0.12	0.25-0.50

APPLICATIONS

- Food industry
- Heat exchangers and hot water appliances
- Solar panels, kitchenware and automotive elements
- Decoration and architecture

MECHANICAL PROPERTIES AFTER COLD ROLLING AND FINAL ANNEALING	Property	Value
	Rp_{0.2}	>320 N/mm ²
	Rm	420 - 640 N/mm ²
	Elongation	min 28%
	Hardness	max 217 HB

PHYSICAL PROPERTIES At 20°C it has a density of 7.7 kg/dm³ and a specific heat of 460 J/kg·K

	20°C	100°C	200°C	300°C	400°C	500°C
Modulus of elasticity (GPa)	220	215	210	205	195	-
Mean coefficient of linear expansion between 20°C (10⁻⁶ x K⁻¹) and	-	10.4	10.8	11.2	11.6	11.9
Thermal conductivity (W/m·K)	23	24.8	27.3	29.5	31	32
Electrical resistivity (Ω·mm²/m)	0.80	-	-	-	-	-

WELDING The recommended consumable electrodes are:

Shielded electrodes	Wires and rods	Hollow electrodes
E 19 12 3 L 316L	W 19 12 3 L (GMAW) W 19 12 3 L (GRAW) P 19 12 3 L (PAW) S 19 12 3 L (SAW) 316L	T 19 12 3 L 316L

CORROSION RESISTANCE ACX 555 has better pitting corrosion resistance than conventional ferritic and austenitic stainless steels. Intergranular corrosion resistance is improved by double stabilization (titanium and niobium). It is not sensitive to stress corrosion cracking.

SURFACE CLEANING Wash the surface with neutral soap and water applied with a cloth or a brush without scratching the stainless steel. Then, always rinse the stainless steel with water to remove completely the cleaning agent. Finally, it is recommended to dry the surface to preserve a good superficial condition. In severe environments, a frequent cleaning is strongly recommended.

SPECIFICATIONS It can be delivered according to EN 10088-2 and ASTM A-240 standard requirements.

