TECHNICAL INFORMATION

STAINLESS STEEL DIN 1.4541(V2A) , AISI 321 SPECIFICATION

COMPOSITION			
C – 0,08% , Fe – 68% , Cr – 18% , Ni – 11% , Mn – 2% , P – 0,045% , S – 0,03% , Si – 1% , Ti – 0,15%			
DESCRIPTION			
Titanium – bearing , austenic , chromium – nickel steel . Stabilized against carbide precipitation and designed to work within the temperature range where carbide precipitation develops . Ti content helps prevent chromium carbide precipitation resulting from welding or elevated temperatures . Stabilized at annealing temperatures between 950 ÷ 1010 ° C . Resist scaling and vibration fatigue. Application include aircraft exhaust stacks and manifolds , chemical processing equipment , weld equipment ,jet engine parts .			
PHISICAL PROPERTIES			
Property	Unit	Value	Comments
Density	g/cm^2	8	
MECHANICAL PROPERTIES			
Hardness	Rockwell B	80	
Tensile Strength , Ultimate	MPa	620	
Tensile Strength , Yield	MPa	240	
Elongation at Break	%	45	in 50 mm
Modulus of Elasticity	GPa	193 ÷200	
Charpy Impact	J	165	v-notch
Izod Impact	J	135	
ELECTRICAL PROPERTIES			
Electrical Resistivity	ohm · cm	7.2 e- 0,05	at 20 ° C
Magnetic Permeability		1.008	at RT
THERMAL PROPERTIES			
CTE linear 500º C	µm / m · ºC	18,5	0-540º C
Heat Capacity	J / g · ºC	0,5	from 0 – 100 ºC
Thermal Conductivity	W/ m · K	16,1	100 ºC
Melting point	ºC	1400 - 1425	
Maximum service Temperatures , Air	ºC	870	Continuous Service
Maximum service Temperatures , Air	ºC	925	Intermittent Service

SUGGESTED APPLICATION

CORRODENT	TEMP. º C	TEMP. º F	CONC. %	CORRODENT	TEMP. º C	TEMP. º F	CONC. %
Acetone	100	212	ALL	Lacquers & Thinners	149	300	ALL
Acetylene	204	400		Linseed Oil	24	75	
Alcohols	100	212	ALL	Magnesium Hydroxide (or Oxide)	24	75	ALL
Ammonia Dry	100	212	ALL	Magnesium Sulfate	100	212	40%
Ammonium Hydroxide (Ammonia Aqua)	100	212	ALL	Mercury	371	700	100%
Asphalt	121	250		Methylene Chloride	100	212	ALL
Atmosphere (Industrial and Marine)				Methyl Chloride , Dry	24	75	
Barium Compounds	SEE CALCIUM			Milk , fresh or sour	82	180	
Beer	21	70		Molasses	SEE GLUCOSE		
Benzene (Benzol)	100	212		Natural Gas	21	70	
Butane	204	400	ALL	Nitric Acid	24	75	ALL
Butyl Alcohol	SEE ALCOHOLS			Oxygen	24	75	ALL
Carbolic Acid	SEE PHENOL			Oleic Acid	SEE FATTY ACIDS		
Carbonated Water	100	212	ALL	Photographic Bleaching	38	100	ALL
Carbonated Beverages	100	212		Palmitic Acid	SEE FATTY ACIDS		
Carbon Disulfide	93	200		Potassium Compounds	SEE SODIUM COMPOUNDS		
Cider	149	300		Propane	149	300	
Copper Plating Solution (Cyanide)	82	180		Soap & Detergents	100	212	ALL
Cooper Plating Solution (Acid)	24	75		Sodium Bisulphite	100	212	20%
Corn oil	93	200		Sodium Bisulphate	100	212	20%
Creosole	93	200	ALL	Salt or Brine	SEE SODIUM CHLORIDE		
Ethyl Acetate	SEE LACQUER THINNER			Sodium Cyanide	100	212	ALL
Ethyl Chloride Dry	260	500		Sodium Nitrate	100	212	40%
Ethanol	SEE ALCOHOLS			Sodium Phosphate	100	212	10%
Ethylene Glycol (Uninhibited)	100	212	ALL	Sodium Silicate	100	212	10%
Ethylene Oxide	24	75		Sodium Sulfite	100	212	30%
Ferric Sulfate	149	300	ALL	Sodium Thiosulfate	100	212	ALL
Freon	149	300		Steam			
Fluorine , Anhydrous	38	100		Stearic Acid	SEE FATTY ACIDS		
Gasoline	149	300		Sugar Solutions	SEE GLUCOSE		
Glucose	149	300		Sulfur	260	500	
Glue ph 6-8	149	300		Toluene	24	75	
Hydrogen Chloride , Dry	260	500		Varnish	66	150	
Hydrocyanic Acid	100	212	ALL				
Hydrogen Fluoride , Dry	79	175					
Hydrogen Peroxide	52	125	10-100%				
Kerosene	149	300	ALL				