

### Key Features

- High strength
- Good corrosion resistance
- Good mechanical properties up to 600°F
- Good toughness in both base metal and welds

### Common Applications

- Oilfield tools such as rotors
- Nuclear components
- Aerospace parts

### Material Description

Stainless Steel 630 in the solution-treated condition, often referred to as 17-4PH Solution, is a variant of the 17-4 PH alloy before undergoing precipitation hardening. In this state, it possesses excellent corrosion resistance and moderate strength. Stainless Steel 630 Solution is commonly used in applications where high corrosion resistance is required, such as in marine environments or chemical processing equipment. However, it may not exhibit the same level of strength and hardness as the precipitation-hardened condition.

### Chemical Composition (%)

	C	Cr	Cu	Fe	Mn	Nb + Ta	Ni	P	Si	S
<b>Min.</b>		15	3.0	69.91		0.15	3.0			
<b>Max.</b>	0.070	17.5	5.0	78.85	1.0	0.45	5.0	0.040	1.0	0.030

### Mechanical Properties

Ultimate Tensile Strength	160,000 PSI
Tensile Yield Strength	145,000 PSI
Hardness	Rockwell C35
Elongation at Break	5%

### Physical Properties

Density	0.281 lb/in <sup>3</sup> (7.78 g/cm <sup>3</sup> )
Thermal Conductivity	18.4W/m.K
Modulus of elasticity	28,600 KSI (197 GPa)
Melting Point	2,560-2,625°F (1,404-1,440 °C)

### Technical Assistance

Our knowledgeable staff, supported by our in-house team of expert metallurgists and engineers, is ready to assist you with any technical inquiries.

### InstaVoxel™ - On-Demand Manufacturing Expert

859 Willard Street Suite 400, Quincy MA 02169 USA  
 +1 (617) 302-1629 | [info@instavoxel.com](mailto:info@instavoxel.com)  
[www.instavoxel.com](http://www.instavoxel.com)



InstaVoxel's quality control system is ISO-9001 certified, and all our partners hold relevant certifications.



All information in our data sheet is based on approximate testing and provided to the best of our knowledge and belief. It is presented without any contractual obligations and does not constitute a guarantee of properties, processing, or application possibilities in specific cases. Our warranties and liabilities are defined solely by our terms of trade.