

Properties of Paliney® 5

Paliney 5 opens up a whole new range of options for low-voltage, sliding-contact applications. A unique blend of silver and palladium, Paliney 5 is the ideal choice when requirements call for a lower cost material that endures severe environmental and wear conditions, elevated temperatures and corrosion. This heat-treatable alloy is exceptionally durable because it combines three features: high hardness to resist wear, high yield strength for miniaturization without losing gram force and excellent stress relaxation characteristics to withstand service temperatures up to 150 degrees Celsius. In many applications, Paliney 5 provides similar mechanical and corrosion properties as Paliney 6. The Paliney family of alloys offers you the most versatile and the highest quality materials available for sliding contact applications.

Properties of Paliney 5	Annealed	Stress-Relieved	Heat-Treated**
Density, nominal			
grams/cc	10.5	10.5	10.5
Dwt/cu. inches	111	111	111
Solidus Temperature - nominal			
Degrees Celsius	934	934	934
Electrical Conductivity (%IACS, nominal)			9.9
Electrical Resistivity (microhm cm, nominal)			17.4
Coefficient of Linear Expansion			
/Degrees Farenheit (70-900),nom.	9.6x10(-6)	9.6x10(-6)	9.6x10(-6)
/Degrees Celsius (20-500),nom.	17.2x10(-6)	17.2x10(-6)	17.2x10(-6)
Modulus of Elasticity psi,nom.	16.5x10(6)	16.5x10(6)	16.5x10(6)
.1% Yield Strength,ksi	70-90	125-175	140-185
Ultimate Tensile Strength,ksi			
Wire .003-.020 dia.	100-120	130-165	140-185
Strip .003-.015 thick	90-120	120-150	130-160
Elongation,% in 2 inches			
Wire .003-.020 dia.	5 min.	1-5	1-5
Strip .003-.015 thick	5 min.	5 min.	1-10
Knoop Hardness, 100-gram load (50 grams under .005 thick)			
Wire .003-.020 dia.	180-235	240-310	260-335
Strip .003-.015 thick	180-235	240-310	260-335
Vickers Hardness, 100-gram load (50 grams under .005 thick)			
Wire .003-.060 dia.	160-220	230-320	265-320
Strip .003-.015 dia.	160-220	230-320	265-320

*From the Annealed or Stress-Relieved condition; Heat-treated conditions: 750-800F for 45 to 90 minutes

The information contained in this Data Sheet is intended to assist you in the use of this product. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular application. The user should determine the suitability of this material for each application. Data is subject to change without notice.

For More Information

[Contact Us to discuss your application with one of our Materials Specialists.](#)