



alloy wire[®]
international

PHYNOX ALLOY WIRE

For high mechanical performance under severely
corrosive service conditions.

OVER 75 YEARS OF EXPERTISE
75

Phynox is also known as Elgiloy, Conichrome and Alloy 3J21

HASTELLOY is a trade name of Haynes International

The ideal alloy for clinical environments with exposure to high corrosion.

This Cobalt-Chromium-Nickel alloy gives a combination of high strength, ductility and good mechanical properties and is age hardenable. Phynox also has excellent fatigue life, corrosion resistance in numerous environments and is non-magnetic.

- Non magnetic.
- Excellent fatigue life.
- Excellent corrosion resistance.
- High strength, ductility and good mechanical properties.

Tom Mander
Managing Director

Chemical Composition			Specifications	Key Features	Typical Applications	
Element	Min %	Max %	AMS 5833 AMS 5834 AMS 5876 ASTM F1058 ISO 5832-7 ISO 15156-3 (NACE MR 0175)	Combination of high strength, ductility and good mechanical properties at ambient temperatures Excellent fatigue life Excellent corrosion resistance in numerous environments Non magnetic Age hardenable (Spring Temper only) Good for sea water applications	Springs Seal components Medical devices Components for watches Aerospace applications Petrochemical applications Marine engineering	
C	-	0.15				
Mn	1.50	2.50				
Si	-	1.20				
P	-	0.015				
S	-	0.015				
Cr	19.00	21.00				Designations
Ni	14.00	16.00				W.Nr. 2.4711
Co	39.00	41.00				UNS R30003
Mo	6.00	8.00				UNS R30008
Be	-	0.10	AWS 100			
Fe	BAL					

Density	8.3 g/cm ³	0.300 lb/in ³
Melting Point	1427 °C	2600 °F
Coefficient of Expansion	12.5 µm/m °C (20 – 100 °C)	7.0 x 10 ⁻⁶ in/in °F (70 – 212 °F)
Modulus of Rigidity	77 kN/mm ²	11168 ksi
Modulus of Elasticity	203.4 kN/mm ²	29501 ksi

Heat Treatment of Finished Parts					
Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
Annealed	-	-	-	-	-
Spring Temper	Age Harden	520	970	5	Air

Properties				
Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm ²	ksi	°C	°F
Annealed	< 1100	< 160	-185 to +450	-300 to +840
Spring Temper	1400 – 1900	203 – 276	-185 to +450	-300 to +840
Spring Temper + Aged	1900 – 2200	276 – 319	-185 to +450	-300 to +840

The above tensile strength ranges are typical. If you require different please ask.

PHYNOX WIRE



The Spring industry

Wire for critically demanding places

Spring manufacturers produce compression springs, tension springs, torsion springs and formed parts from our wire to perform in critically demanding places like aircraft engines, nuclear installations, valves and deep down oil wells – where other wire fails to perform.

We understand exactly what the spring maker needs for precision coiling and supply exactly how they want it, guaranteeing consistency in temper and a dead cast, whether that is wire in coils with a soap coating, or clean on spools. There is even the option of straight bars.



BAE SYSTEMS



DFARS COMPLIANT

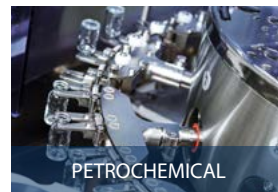
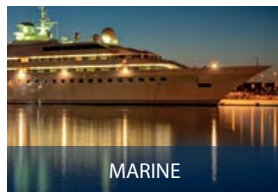
ISI Member of IST



JSPA Japan Spring Manufacturers Association
一般社団法人 日本ばね工業会



Key sectors are the primary industries that use Alloy Wire for their safety critical components to withstand high temperatures and corrosive environments.



A global presence



Worldwide offices

AUSTRALIA

AUSTRIA

BANGLADESH

BELGIUM

BRAZIL

BULGARIA

CANADA

CHINA

CROATIA

CZECH REPUBLIC

FRANCE

GERMANY

HOLLAND

HUNGARY

INDIA

INDONESIA

ISRAEL

ITALY

JAPAN

LUXEMBOURG

MALAYSIA

MEXICO

MOLDOVA

NEW ZEALAND

OMAN

PHILIPPINES

POLAND

PORTUGAL

QATAR

ROMANIA

SAUDI ARABIA

SERBIA

SINGAPORE

SLOVAKIA

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SOUTH KOREA

SPAIN

SWITZERLAND

TAIWAN

THAILAND

TURKEY

UAE

UKRAINE

UNITED KINGDOM

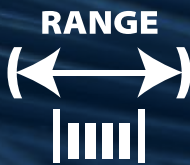
USA

VIETNAM

6 Key Advantages we deliver to you

Our knowledge and experience, combined with continual investment in R&D and technology, keeps us at the forefront of the wire industry and you receive an expert solution for your individual order specification.

We can manufacture wire to customer precise specification often with properties unique to client. Servicing a wide range of sectors and a vast variety of applications, Alloy Wire is an integral supporter of numerous high tech applications for sectors such as aerospace, nuclear, motor sport, chemical processing, electronics and oil & gas.



Size: 0.025 mm (.001")
to 21 mm (.827")



Order quantity:
3 metres to 3 tonnes



Delivery:
within 3 weeks



Wire, bars & rope
in over 60 alloys



Manufactured to
your specification



Emergency
Manufacturing Service

Manufacturers of wire, bars and wire rope in High Performance Exotic Alloys since 1946



alloy wire[®]
international

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AS 9100



Aerospace & Defence

ISO 13485



Medical

ISO 14001



Environmental

ISO 45001



Health & Safety