AMETEK®
SPECIALTY METAL PRODUCTS

POWDER • TUBE • STRIP

MASTER ALLOYS: Chromium

TECHNICAL DATA SHEET

Chromium is an element that adds corrosion resistance, strength and hardness to metals it is alloyed with and is a key component of specialty alloys, nickel and super alloys.

ReadingAlloys
advanced engineered materials®

INTRODUCTION

Reading Alloys innovates and produces superior master alloys, specialty alloys and metal powder products renowned for high purity and specific material characteristics. From aerospace to medical, to military to electronics, applications that demand the ultimate in performance rely on Reading Alloys' products. The company is widely recognized for its expertise in aluminothermic smelting, induction melting, vacuum sintering, metal powder production and electron beam refining.

Recognized as a premier supplier in applications where ultimate quality is critical; Reading Alloys produces high-purity materials in accordance with a certified ISO 9001 / AS 9100 quality management system and tested by a Nadcap accredited analytical laboratory. Our company maintains comprehensive quality assurance processes and precision material characterization systems to support the continued development of our core master alloys and high-purity fine powders.

APPLICATIONS

Chromium is mostly used in the production of specialty alloys, nickel and super alloys where low iron is required. In smaller additions, chromium is also added to several aluminum, copper and titanium alloys. Chromium containing materials are extensively used within the thermal spray industry to impart barrier coatings with unique characteristics on to metal substrates. In powder or traditional "nugget" form, Reading Alloys' chrome products provide consistent and reliable properties to final treated components.

Chromium is customarily added as an alloying material to assist in performance at high temperatures and under extremely corrosive conditions in super alloys, nickel alloys and cobalt alloys. Due to their unique high temperature, enhanced strength and corrosion resistance properties, these high performance alloys are well suited for critical coating applications especially for jet engine turbine blades. Other industries include oil and gas production, land based turbines, and the chemical and refractory industries.

Chromium alloys such as 30Al/70Cr and 44Al/56Cr are available for critical coating applications for the aerospace and non-aerospace industries. Through either thermal or plasma spray, or packed powder (CVD) processing, Reading Alloys is committed to providing superior quality Cr containing products to these important markets. Our unparalleled experience in alloy design and manufacturing enable us to gain an in-depth understanding of customer specific requirements.

Please contact us to review your requirements at **rai.sales@ametek.com**

MASTER ALLOYS: CHROMIUM

Element %	20Al-80Cr	30Al-70Cr	44Al-56Cr	60Al-40Cr
Aluminum	20-24%	25-3%	42-46%	58-62%
Chromium	Balance	65-75%	Balance	Balance
Carbon	0.10% Max	0.10% Max	--	--
Iron	--	0.50% Max	0.50% Max	0.50% Max
Magnesium	--	0.01% Max	--	--
Manganese	--	0.05% Max	--	--
Molybdenum	--	0.20% Max	--	--
Silicon	0.25% Max	0.25% Max	--	--
Sulfur	0.01% Max	0.01% Max	--	--
Vanadium	--	0.10% Max	--	--
Co+Fe+Mn	0.5% Max Total	--	--	--
Nitrogen	0.02% Max	0.02% Max	--	--
Oxygen	0.10% Max	0.10% Max	--	--

RAI ID#	RAI-0012	RAI-0016	RAI-0017	RAI-0018
Standard Size*	10mm x 3mm	• 5/8" x 1/8" • 5 x 18 mesh	• 5/8" x 1/8" • 50 x 325 mesh	per customer request
Packaging**	1000 lb open-head steel drums (55 gallon)	1000 lb open-head steel drums (55 gallon)	300 lb open-head steel drums (17 gallon)	per customer request

* Other sizes available upon request.

** Other packaging available upon request.

Continuous product development may make it necessary to change product details without notice.

AMETEK Specialty Metal Products at a Glance

Reading Alloys is a unit of AMETEK Specialty Metal Products (SMP) operating within the Engineered Materials division of AMETEK Inc, a leading global producer of electronic instruments and electromechanical devices.

AMETEK SMP is a leading manufacturer of advanced metallurgical products including high purity powders, master alloys, precision metal tube, strip and foil.These products are manufactured at six operating facilities in the United States and the United Kingdom for a variety of critical applications, including aerospace, automotive, defense, electronics, energy, medical, general industrial and oil and gas.

ReadingAlloys
advanced engineered materials®

AMETEK Reading Alloys
220 Old West Penn Avenue
Robesonia, PA 19551
United States

T: +1 610.693.5822
F: +1 610.693.5542
E: rai.sales@ametek.com

www.readingalloys.com

ISO 9001 / AS9100 Certified

.25M913W (610004)