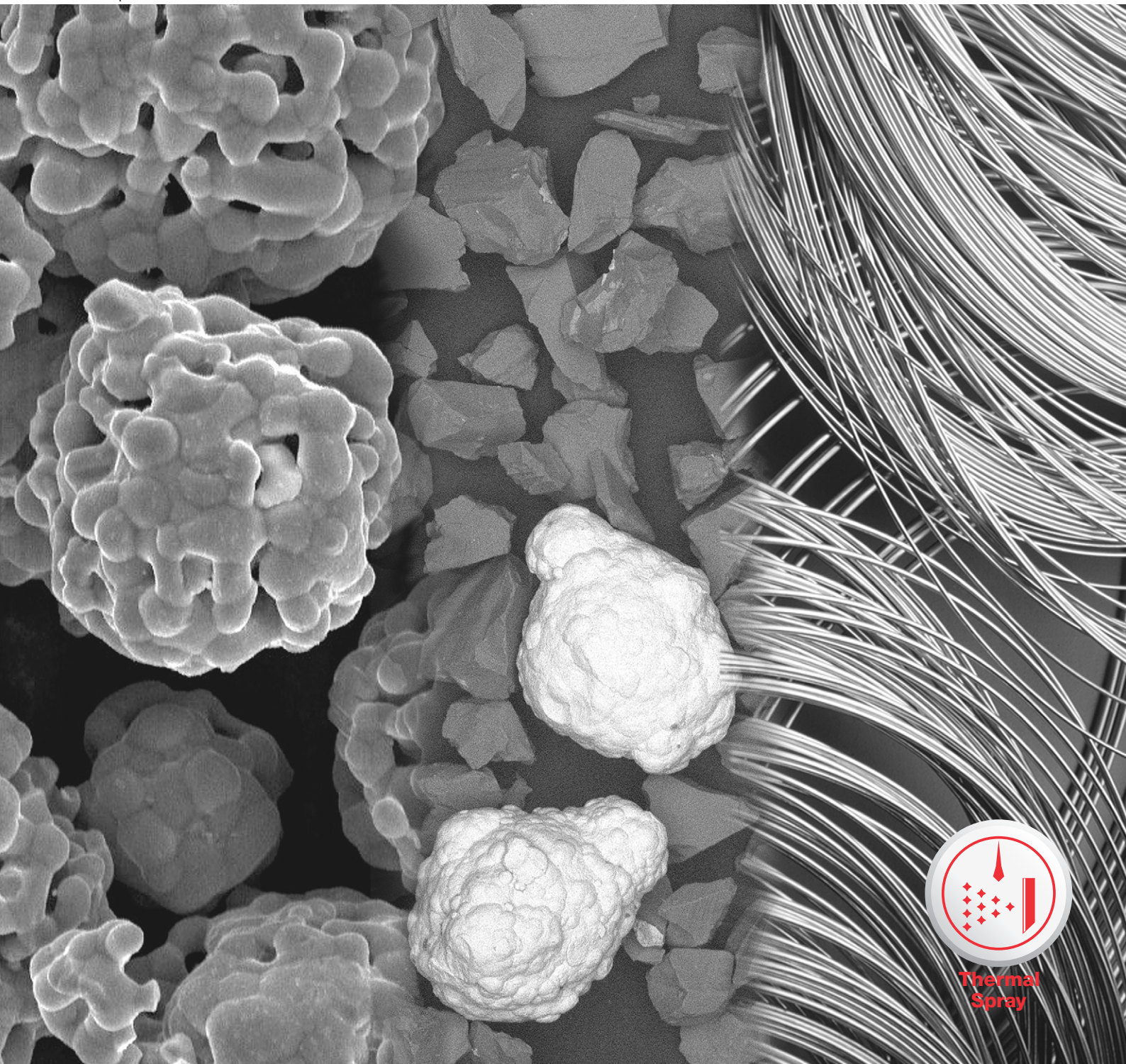
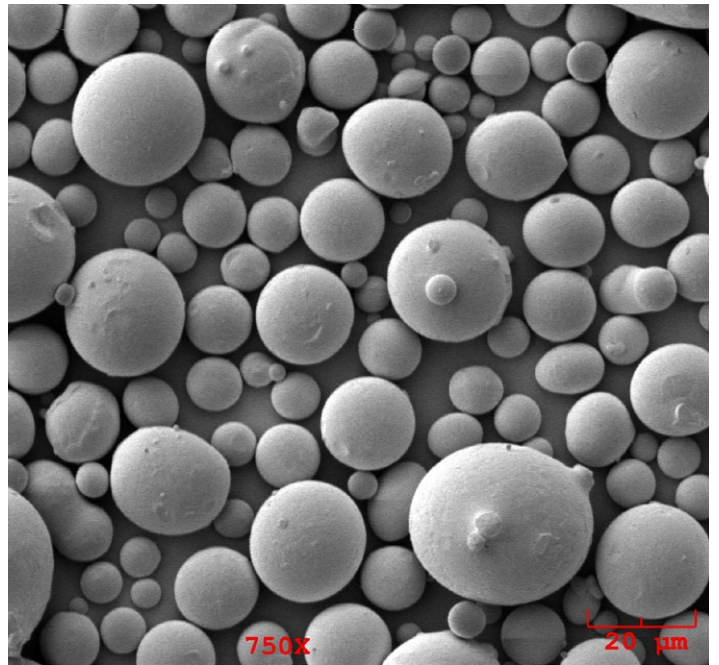


Thermal Spray Materials Guide

Issue: April 2017



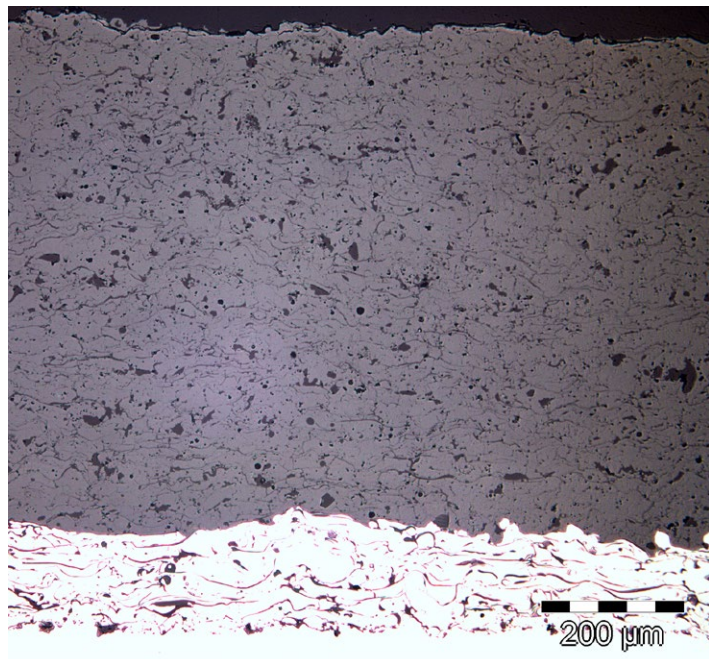
Optimum Materials...



Innovative Technology...



Perfect Coatings...



Contents

The Oerlikon Metco Difference	5	Molybdenum Base	17
Key Manufacturing Processes	6	Molybdenum (Pure)	17
Key Information	7	Molybdenum - Self-Fluxing Alloy Blends	17
Product Availability	7	Nickel Base	17
Powder Particle Size Distributions	7	Nickel (Pure)	17
Symbols	7	Nickel 5% Aluminum	17
Trademarks and Brands	7	Nickel 20% Aluminum	18
How to Use This Guide	8	Nickel Chromium	18
Abradables and Polymer Fillers	9	Nickel Chromium Aluminum	18
Aluminum Base	9	Nickel Chromium Aluminum Molybdenum	18
Aluminum Silicon Boron Nitride	9	Nickel Chromium Superalloys (Inconel Type)	18
Aluminum Silicon Graphite	9	Nickel Chromium Cobalt Superalloy (Rene Type)	18
Aluminum Silicon Polymer	9	Nickel Chromium Tungsten Molybdenum Superalloys	19
Cobalt Base	9	Nickel Molybdenum Aluminum	19
CoNiCrAlY Boron Nitride Polyester	9	Silicon Base	19
Copper Base	9	Silicon Metalloid (Pure)	19
Copper Aluminum (Aluminum Bronze) Polyester	9	Titanium Base	20
Nickel Base	10	Titanium (Pure) and Titanium Alloys	20
Nickel Graphite	10	Self-Fluxing	21
Nickel Chromium Aluminum Bentonite	10	Standard Alloys	21
Nickel Chromium Iron Aluminum Boron Nitride	10	Cobalt-Based and Nickel-Based Standard Self-Fluxing Alloys	21
Polymer Fillers	10	With Hardphase	21
Polyester	10	Self-Fluxing Alloys with Tungsten Carbide	21
Ceramic Abradables	11	Hardfacing Alloys	22
Ytterbia Zirconate Ceramic Abradables	11	Self-Fusing Chromium Carbide Blends	22
Zirconium Oxide Abradables	11	Self-Fusing Tungsten Carbide Blends	22
MCrAlY Alloys	12	Carbides	23
Cobalt Base	12	Chromium Carbide	23
CoCrAlY and CoNiCrAlY	12	Chromium Carbide	23
Iron Base	12	Chromium Carbide - Nickel Chromium Blends	23
FeCrAlY	12	Chromium Carbide - Nickel Chromium - Chemically Clad	23
Nickel Base	13	Chromium Carbide - 20% Nickel Chromium - Agglomerated & Sintered	23
NiCoCrAlY	13	Chromium Carbide - 25% Nickel Chromium - Agglomerated & Sintered	23
NiCrAlCoY ₂ O ₃	13	Chromium Carbide - 25% Nickel Chromium - Agglomerated & Densified	24
NiCrAlY	13	Chromium Carbide - 37% Tungsten Carbide - 18% Metal Alloy	24
Proprietary	14	Chromium Nickel Carbide	24
Proprietary MCrAlY Products	14	Chromium Carbide MCrAlY Blend	24
Metals, Alloys, Composites and Blends	15	Tungsten Carbide	24
Aluminum Base	15	Tungsten Carbide 12% Cobalt - Fused & Crushed	24
Aluminum (Pure)	15	Tungsten Carbide 12% Cobalt - Sintered & Crushed	24
Aluminum Silicon	15	Tungsten Carbide 12% Cobalt - Agglomerated & Sintered	25
Cobalt Base	15	Tungsten Carbide 17% Cobalt	25
Cobalt Chromium Tungsten (Stellite Type)	15	Tungsten Carbide 20% Cobalt	25
CoCrAlY Silicon Hexagonal Boron Nitride	15	Tungsten Carbide 10% Nickel	26
Cobalt Molybdenum Chromium Silicon (Tribaloy Type)	15	Tungsten Carbide 12% Nickel	26
Copper Base	16	Tungsten Carbide 17% Nickel	26
Copper (Pure)	16	Tungsten Carbide 12% Cobalt 25% Nickel	26
Copper Aluminum (Aluminum Bronze)	16	Tungsten Carbide 10% Cobalt 4% Chromium - Sintered & Crushed	27
Copper Nickel	16	Tungsten Carbide 10% Cobalt 4% Chromium - Agglomerated & Sintered	27
Iron Base	16	Tungsten Carbide 9% Cobalt 5% Chromium 1% Nickel	27
Speciality Iron-Based Products	16	Tungsten Carbide 10% Nickel 5% Chromium	28
Iron Chromium Nickel - 400 Series Ferritic and Martensitic Stainless Steel	16	Tungsten Carbide 20% Chromium Carbide 7% Nickel	28
Iron Chromium Nickel - 300 Series Austenitic Stainless Steel	16	Cermets	29
Iron Molybdenum Carbon	16	Oxide Ceramic and Alloy Blends	29
Iron Nickel Aluminum	17	Aluminum Oxide - Nickel Aluminum Cermets	29

CONTINUED...

Contents

...

Zirconium Oxide – Nickel Chromium Cermets	29	Wires	36
Oxide Ceramics	30	Aluminum Base	36
Aluminum Oxide	30	Aluminum (Pure)	36
Aluminum Oxide (High Purity)	30	Aluminum Alloys	36
Aluminum Oxide (Pure)	30	Copper Base	37
Aluminum Silicate (Mullite)	30	Copper (Pure) and Copper Alloys	37
Aluminum Oxide 3% Titanium Oxide	30	Iron Base	37
Aluminum Oxide 13% Titanium Oxide	30	Carbon Steels	37
Aluminum Oxide 40% Titanium Oxide	31	Iron Aluminum Carbon	37
Chromium Oxide	31	Iron Chromium (Stainless Steel)	38
Chromium Oxide (Pure)	31	Iron Chromium (Cr > 20%)	38
Chromium Oxide 4% Silicon Oxide 3% Titanium Oxide	31	Iron Chromium Nickel with Hard Phase	38
Chromium Oxide – Titanium Oxide	31	Iron Molybdenum	38
Gadolinium Zirconium Oxide	31	Nickel Base	39
Gadolinium Zirconium Oxide and Gadolinium Zirconate	31	Nickel (Pure)	39
Lanthanum Oxide	32	Nickel Aluminum	39
Lanthanum Strontium Manganate (LSM)	32	Nickel Chromium	39
Lanthanum Strontium Cobalt Ferrite (LSCF)	32	Nickel Copper (Monel)	39
Manganese Cobalt Oxide	32	Nickel Titanium	40
Manganese Cobalt Oxide (MCO)	32	Silver Base	40
Titanium Oxide	32	Silver (Pure) and Silver Alloys	40
Titanium Oxide (Pure)	32	Tin Base	40
Titanium Oxide 45% Chromium Oxide	32	Tin (Pure) and Tin Alloys	40
Ytterbium Oxide	33	Zinc Base	40
Ytterbium Disilicate	33	Zinc (Pure) and Zinc Alloys	40
Yttrium Oxide	33	Auxiliary Supplies	41
Yttrium Oxide (Pure)	33	Sealers	41
Zirconium Oxide	33	Sealers	41
Calcia-Stabilized Zirconium Oxide	33	Masking Compounds	41
Ceria-Stabilized Zirconium Oxide	33	Liquid Masking Compounds	41
Magnesia-Stabilized Zirconium Oxide	33	Masking Tapes	41
Zirconia Titania Yttria Composite	34	Masking Tapes	41
7.5% Yttria-Stabilized Zirconium Oxide - Agglomerated	34	Cleaning (Blast) Media	42
8% Yttria-Stabilized Zirconium Oxide - Agglomerated & Sintered	34	Aluminum Oxide Grit	42
8% Yttria-Stabilized Zirconium Oxide - HOSP	34	Product Index	43
8% Yttria-Stabilized Zirconium Oxide - Suspension	35	Customer Specifications	46
20% Yttria-Stabilized Zirconium Oxide	35		
High Yttria-Stabilized Zirconium Oxide	35		
Zirconia Gadolinia Ytterbia Yttria	35		

The Oerlikon Metco Difference

Every successful thermal spray solution starts with the right material choice.

Oerlikon Metco is a world-class materials manufacturer of powders and wires for coating applications and speciality markets. Our products are produced using a broad range of state-of-the-art materials manufacturing methods, including our own pioneered proprietary processes. We can provide you with hundreds of diverse products to choose from—the broadest line of thermal spray coating materials and auxiliary products in the world.

Our long-standing reputation of providing value through quality products is supported by the many customers who turn to Oerlikon Metco to manufacture materials with customized chemistries and particle size distributions.

Our quality commitment is evidenced by our ISO 9001 and AS 9000 quality standards and Nadcap-approved laboratories. Our strong commitment to the environment and the safety of our coworkers and customers is validated by our ISO 14001 and OHSAS 18001 certifications.

We verify our products through stringent in-process testing programs. While certifications are mandated for certain applications, compliance assures that our off-the-shelf solutions and custom thermal coating materials perform to your own demanding requirements.

Whether your engineered surface goal is better durability from wear or corrosion, thermal protection, surface restoration, dimensional control or engineering other desirable properties into a component or system, you will find solutions within these pages.

Materials for thermal spray are just one of our many specialties. Should your needs be better suited to hardface welding, PTA, laser cladding, brazing, electronic fillers or pack diffusion, Oerlikon Metco is a leading supplier of these materials. Please refer to the appropriate

material catalogs for more information about our products and solutions for these processes.

Meeting Your Design Goals Means Paying Attention to All the Details.

“Designed to cost and purpose” coating solutions requires an in-depth approach that goes far beyond mere selection of a material based solely on chemistry and particle size distribution. Using our philosophy of fast, efficient, high-impact innovation, our scientists examine how material characteristics and coating properties are influenced by manufacturing processes and parameters, the subtleties of choosing one raw material instead of another, and material characteristics such as apparent and bulk density, particle morphology and shape, and other physical properties. Our specialized infrastructure is uniquely flexible and extensive in scope, including

our ability to quickly test material and coating characteristics, properties, and performance.

Once a material solution is developed, it is manufactured with lot-to-lot consistency and reliability. Oerlikon Metco leads our industry with lean, high-volume manufacturing using in-place, state-of-the-art facilities and quality systems. This includes fast availability of materials for testing, efficient prototype-to-production transfer and scale-up capability, and responsiveness to the customer's needs based on expert knowledge of how to tailor coating materials to achieve specific coating performance and application demands.

The end result? Materials that fully meet your design and application goals, and go beyond your expectations for reliability and consistency.

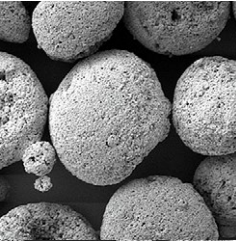
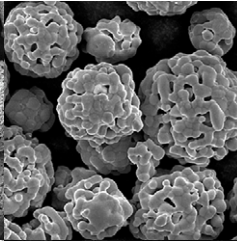
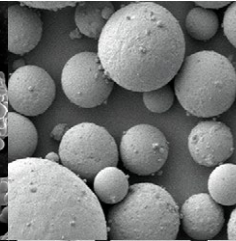
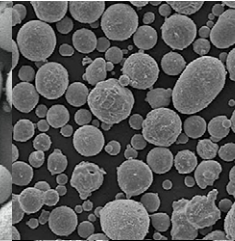
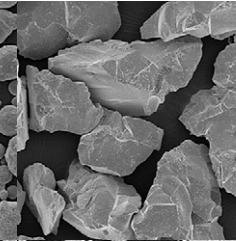
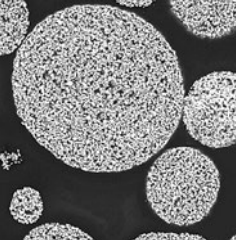
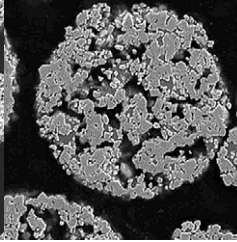
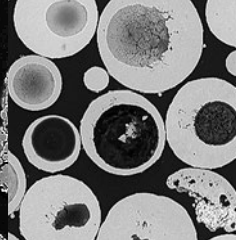
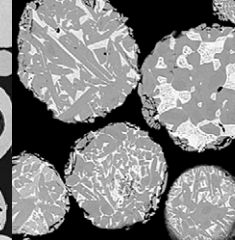
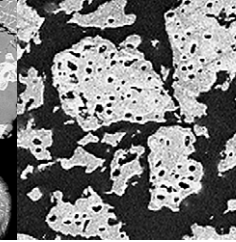
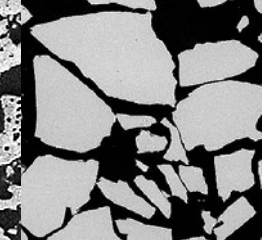
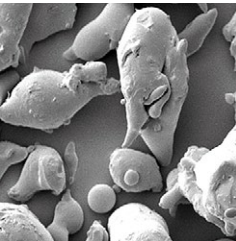
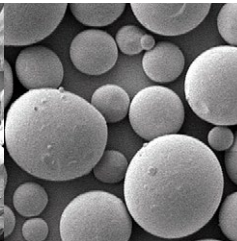
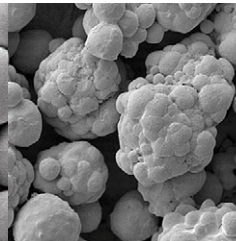
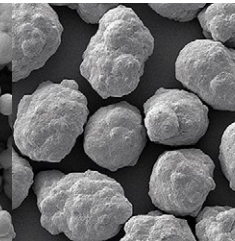
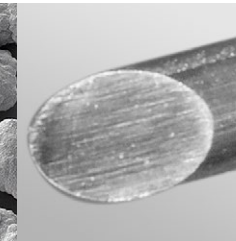
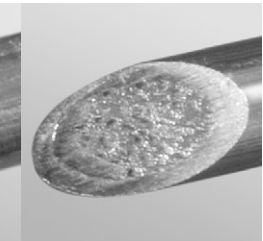
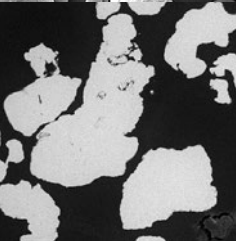
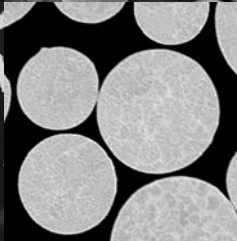
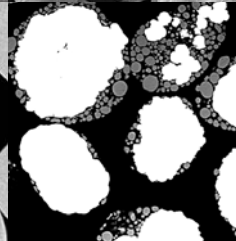
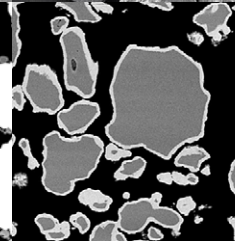
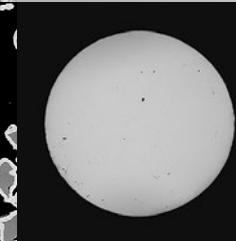
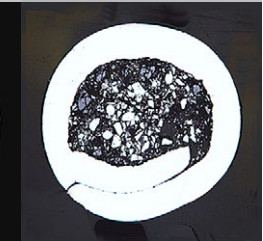


Key Manufacturing Processes

The choice of manufacturing process depends not only on the chemistry of the material to be produced, but also the product's target goals, resulting coating characteristics and properties, and the application economics

(deposition rate vs. product cost). In addition to the processes shown here, Oerlikon Metco may employ other processing steps to achieve the desired end result such as HDH (hydride-dehydride) and chemical purification.

We also offer blends of materials in precise ratios that consist of multiple materials produced using any of these manufacturing processes.

Agglomerated	Agglomerated and Sintered	Agglomerated and HOSP (Spheroidized)	Agglomerated, [and Sintered] and Densified (Spheroidized)	Sintered and Crushed	Fused and Crushed
					
					
Water Atomized	Gas Atomized	Mechanically Clad (Porously Coated)	Chemically Clad (Densely Coated)	Drawn, Swaged or Rolled	Filled and Drawn, Swaged or Rolled
					
					

Oerlikon Metco's key manufacturing processes. Upper images show shape or form, lower images show interior morphology.

Key Information

Product Availability

The majority of the products listed in this guide are available worldwide; however, some products are only available on a regional basis. Regional products may be obtainable outside of the specified region as a special order. For further information, please refer to the appropriate material product data sheet or contact your Oerlikon Metco account representative

In our data sheets, those items designated as Stock are warehoused and generally available for immediate shipment or for shipment within a few days. Please note that not all Oerlikon Metco warehouses may have supplies on hand or in sufficient quantities, whereupon we will make every effort to accommodate your needs as quickly as possible. Lead time to shipment for items marked

Special Order will be provided at the time of order placement. Minimum order quantities may apply.

Products marked Proprietary are only available to qualified purchasers of that product.

Powder Particle Size Distributions

With few exceptions for OEM specifications, the powder materials in this guide and the associated Oerlikon Metco material data sheets reflect nominal powder particle size distributions such that the majority of the powder by weight is within the stated size range for that

product, with only a small amount being coarser or finer. In general, particle sizes that are greater than or equal to 45 μm are measured by sieve analysis (ASTM B214) and particle sizes less than 45 μm are measured by laser diffraction (Microtrac). Please refer to the data sheet for

further information. Customer specifications for that material product may reflect significantly different nominal size distributions, depending on the criteria used by the customer and the measurement methods chosen.

Symbols

Chemical symbols used in this guide:

Ag Silver
Al Aluminum
B Boron
BN Boron Nitride
C Carbon or Carbide
Ca Calcium
cBN Cubic Boron Nitride
Cl Chlorine
Co Cobalt
Cr Chromium
Cu Copper
Dy Dysprosium
Fe Iron
Gd Gadolinium
H Hydrogen

hBN Hexagonal Boron Nitride
Hf Hafnium
In Indium
La Lanthanum
LSCF Lanthanum Strontium Cobalt Ferrite
LSM Lanthanum Strontium Manganite
M Metal (generic)
MCO Manganese Cobalt Oxide
Mg Magnesium
Mn Manganese
Mo Molybdenum
N Nitrogen
Nb (Cb) Niobium
Ni Nickel
O Oxygen

P Phosphorus
Pb Lead
S Sulfur
Sb Antimony
Si Silicon
Sn Tin
Sr Strontium
Ta Tantalum
Ti Titanium
V Vanadium
W Tungsten
Y Yttrium
Yb Ytterbium
Zn Zinc
Zr Zirconium

Trademarks and Brands

The following brands in this publication are trademarks or registered trademarks of their respective owners:

Hastelloy Haynes International, Inc.
Inconel Huntington Alloys Corporation
Monel Huntington Alloys Corporation
Silvaloy Wolverine Joining Technologies, LLC
Stellite Kennametal Inc.
Tribaloy Kennametal Inc.

The following product brands used in this guide or other media are Oerlikon Metco trademarks or registered trademarks:

Amdry	Metco	Sprababbitt
ChamPro	MetcoClad	Sprabronze
Diamalloy	Metcolite	Sprasteel
Durabrade	Metcoloy	Thermospray
E-Fill	Metcoseal	WOKA
HOSP	PlasmaDur	WokaDur

How to Use This Guide

Similar products in this guide are grouped together. The data sheet index number is provided for each of these product groups. The data sheet provides detailed information about each product, including any customer specifications the product is approved to meet

and ordering information. Product data sheets are available from our web site at www.oerlikon.com/metco.

This guide is designed for on-screen use. To facilitate navigation, Table of Contents entries are linked to sections

within the guide and index entries are linked to material product descriptions. To navigate, simply click on an entry within the contents or indexes. Page numbers are included for printed versions.

Product Index

Product	Page	Product
WOKA 3104.....	23	WOKA 3603.....
WOKA 3105.....	23	WOKA 3604.....
WOKA 3106.....	23	WOKA 3606.....
WOKA 3110 FC.....	23	WOKA 3607.....
WOKA 3111 FC.....	23	WOKA 3610.....
WOKA 3201.....	23	WOKA 3619.....
WOKA 3202.....	23	WOKA 3622.....
WOKA 3203.....	23	WOKA 3632.....
WOKA 3206.....	23	WOKA 3644.....
WOKA 3207.....	23	WOKA 3645.....
WOKA 3208.....	23	WOKA 3646.....
WOKA 3209.....	23	WOKA 3647.....
WOKA 3210.....	23	WOKA 3648.....

Example: Click the link for WOKA 3106 in the Product Index ① to navigate directly to the description of WOKA 3106 in the body ② of the guide.

Carbides

Tungsten Carbide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Tungsten Carbide 12% Cobalt - Agglomerated & Sintered				
WC 12Co	-53 +20 µm	WOKA 3101	Agglomerated & Sintered	- Good sliding wear, impact, abrasion, fretting resistance - Hard, dense, well-bonded - Best for dry environments - For steel rolls, sink rolls, exhaust fans, pump housings, conveyor screws, sucker rod couplings, etc. - Choose product by process and spray gun to be used and desired surface finish "FC" products have submicron carbides ideal for corrugating rolls - HVOF or HVOF application - Service up to 500 °C (930 °F)
	-53 +15 µm	WOKA 3106		
	-45 +15 µm	WOKA 3102		
	-45 +11 µm	WOKA 3103		
	-38 +10 µm	WOKA 3105		
	-30 +10 µm	WOKA 3104		
	-25 +5 µm	WOKA 3110 FC		
	-20 +5 µm	WOKA 3111 FC		
Tungsten Carbide 17% Cobalt				
	-90 +45 µm	WOKA 3208	Agglomerated & Sintered	- Medium-fine carbide size - High toughness and ductility; high fretting resistance - Use in non-corrosive - Economical
	-53 +20 µm	WOKA 3201		
	-53 +15 µm	WOKA 3206		
	-53 +11 µm	WOKA 3223		
	-45 +20 µm			

Abradables and Polymer Fillers

Aluminum Base

Chemistry	Particle Size	Product	Manufacture	Applications
Aluminum Silicon Boron Nitride			Data Sheet DSMTS-0017	
Al 8Si 20BN	-212 +22 μm	Metco 320NS	Mechanically Clad	▪ Turbine compressor abradable ▪ Superior corrosion resistance ▪ Good erosion resistance ▪ Service up to 450 °C (840 °F)
Aluminum Silicon Graphite			Data Sheet DSMTS-0020	
Al 7Si 22Graphite	-125 +5 μm	Metco 310NS	Mechanically Clad	▪ Turbine compressor abradable (mid and rear sections) ▪ Balance of abradability and erosion resistance
Al 6Si 24Graphite	-180 +8 μm	Metco 311NS		
Al 5Si 45Graphite	-180 +8 μm	Metco 313NS		
Aluminum Silicon Polymer			Data Sheet DSMTS-0016	
Al 7Si 40Polyester	-125 +11 μm	Metco 601NS	Blended	▪ Turbine fan and front compressor abradable ▪ Optimal balance of abradability, erosion resistance and hardness
	-125 +11 μm	Amdry 2010		
Al 9Si 6BN 20Polyester	-125 +11 μm	Amdry XPT-268	Mechanically Clad	
Al 6Si 47Polyimide	-149 +11 μm	Amdry 2000		

Cobalt Base

Chemistry	Particle Size	Product	Manufacture	Applications
CoNiCrAlY Boron Nitride Polyester				Data Sheet DSMTS-0011
Co 24Ni 16Cr 6Al 0.3Y 7BN 14Polyester	-176 +7.8 µm	Metco 2042	Blended	- Abradable for high pressure turbine compressors, labyrinth shaft seals and disk seals - Excellent oxidation and corrosion resistance - Polymer can be removed via post-coat heat treatment - Service up to 550 °C (1025 °F) to run against titanium; up to 750 °C (1390 °F) to run against Inconel and stainless steel
Co 25Ni 16Cr 6Al 0.3Y 4BN 15Polyester	-176 +11 µm	Metco 2043		

Copper Base

Chemistry	Particle Size	Product	Manufacture	Applications
Copper Aluminum (Aluminum Bronze) Polyester				Data Sheet DSMTS-0012
Cu 8.5Al 1Fe 5Polyester	-125 +11 µm	Metco 604NS	Blended	- Industrial and aerospace abrasables - For running against titanium blades, 17-4 PH steel or inconel knife edges - Marine corrosion resistance superior to aluminum-based abrasables - Polymer can be removed via post-coat heat treatment - Service up to 650 °C (1200 °F)
Cu 8.5Al 1Fe 10Polyester	-88 +11 µm	Metco 605NS		
Cu 7.5Al 1Fe 14.5Polyester	-150 +22 µm	Metco 610NS	Mechanically Clad	

Abradables and Polymer Fillers

Nickel Base

Chemistry	Particle Size	Product	Manufacture	Applications		
Nickel Graphite			Data Sheet DSMTS-0021			
Ni 15Graphite	-106 +30 μm	Metco 308NS-3	Chemically Clad	▪ Turbine compressor abrasables		
	-106 +30 μm	Durabrade 2241				
	-90 +30 μm	Metco 308NS				
	-90 +30 μm	Metco 308NS-1				
Ni 20Graphite	-106 +45 μm	Metco 309NS-3		▪ Products with higher graphite content appropriate to run against untipped titanium components		
	-106 +45 μm	Durabrade 2231				
Ni 25Graphite	-90 +30 μm	Metco 307NS		▪ Higher graphite content enhances lubricity		
	-90 +30 μm	Durabrade 2222				
	-90 +30 μm	Metco 307NS-3				
	-90 +20 μm	Metco 307NS-2			▪ Higher nickel content enhances erosion resistance	
	-90 +20 μm	Durabrade 2223				
	-90 +30 μm	Durabrade 2221				▪ Similar products differ by OEM specification approvals
	-90 +20 μm	Durabrade 2224				
	Ni 40Graphite	-90 +30 μm			Durabrade 2211ZB	▪ Service up to 480 °C (900 °F)
Nickel Chromium Aluminum Bentonite				Data Sheet DSMTS-0013		
Ni 4Cr 4Al 21Bentonite	-177 +74 μm	Metco 314NS	Chemically Clad	▪ Turbine high pressure compressor abrasible ▪ Finer cuts produce harder, more erosion resistant coatings ▪ Similar products differ by OEM specification approvals ▪ Service up to 650 °C (1200 °F)		
	-177 +74 μm	Durabrade 2313				
	-150 +45 μm	Metco 312NS				
	-149 +45 μm	Durabrade 2311				
Nickel Chromium Iron Aluminum Boron Nitride			Data Sheet DSMTS-0007			
Ni 13Cr 8Fe 3.5Al 6.5BN	-120 +45 μm	Metco 301NS	Mechanically Clad	▪ Turbine high pressure compressor abrasible ▪ For running against nickel alloy or titanium alloy blades ▪ Boron nitride enhances lubricity ▪ Similar products differ by OEM specification approvals ▪ Service up to 815 °C (1500 °F)		
	-120 +45 μm	Metco 301C-NS				

Polymer Fillers

Chemistry	Particle Size	Product	Manufacture	Applications
Polyester Data Sheet DSMTS-0015				
Crystalline Polyester Aromatic	-150 +45 µm	Metco 600NS-1	Reactor Product	- Provides friability and lubrication in clearance control applications - Controls porosity in coating structure - High quality LCP polymers for consistent performance
	-125 +45 µm	Metco 600NS		- Polymer can be removed via post-coat heat treatment - Service up to 325 °C (600 °F)

Abradables and Polymer Fillers

Ceramic Abradables

Chemistry	Particle Size	Product	Manufacture	Applications
Ytterbia Zirconate Ceramic Abradables			Data Sheet DSMTS-0100	
Proprietary Yb ₂ O ₃ ZrO ₂	-176 +11 µm	Durabrade 2197	Agglomerated & Sintered	Turbine hot section abradable
Proprietary Yb ₂ O ₃ ZrO ₂ + Polyester	-176 +11 µm	Durabrade 2198	Agglomerated, Sintered & Blended	Produces coatings with high porosity levels
	-176 +11 µm	Durabrade 2198A		Proprietary Siemens products
Zirconium Oxide Abradables			Data Sheet DSMTS-0014	
ZrO ₂ 9.5Dy ₂ O ₃ 0.7BN 4.5Polyester	-176 +11 µm	Durabrade 2192	Agglomerated, Plasma Densified (HOSP) & Blended	- Turbine hot section abradable - Durabrade 2192 usable to run against untip-ped blades under specific conditions
ZrO ₂ 7.5Y ₂ O ₃ 0.7BN 4.5Polyester	-176 +11 µm	Metco 2395		- Polymer controls coating porosity - Polymer can be removed via post-coat heat treatment
ZrO ₂ 10Dy ₂ O ₃	-125 +11 µm	Metco 213	Agglomerated & Plasma Densified (HOSP)	Polymer-free Metco 213 produces dense, ero-sion resistant advanced-structured coatings
ZrO ₂ 7.5Y ₂ O ₃ 4Polyester	-176 +11 µm	Metco 2460NS	Agglomerated	- Metco 213 can be used as a TBC material - Service up to 1150 °C (2100 °F)

MCrAlY Alloys

Cobalt Base

Chemistry	Particle Size	Product	Manufacture	Applications
CoCrAlY and CoNiCrAlY				Data Sheet DSMTS-0092
Co 29Cr 6Al 2Si 0.3Y	-38 +5.5 µm	Amdry 920	Gas Atomized	▪ Excellent hot corrosion and sulfidation resistance, good oxidation resistance ▪ Excellent as a corrosion resistant bond coat ▪ Can be post-coat heat treated for improved performance ▪ Service up to 1050 °C (1920 °F)
	-90 +45 µm	Amdry 995C		▪ Excellent balance of oxidation, hot corrosion and sulfidation resistance ▪ Excellent as a corrosion resistant bond coat ▪ Can be post-coat heat treated for improved performance ▪ Service up to 850 °C (1560 °F)
	-63 +11 µm	Amdry 9954		
Co 32Ni 21Cr 8Al 0.5Y	-45 +22 µm	Diamalloy 4454		
	-45 +15 µm	Diamalloy 4700		
	-38 +5.5 µm	Amdry 9951		
	-38 +5.5 µm	Metco 4451		

Iron Base

Chemistry	Particle Size	Product	Manufacture	Applications
FeCrAlY				Data Sheet DSMTS-0117
Fe 24Cr 8Al 0.5Y	-45 +11 µm	Amdry 9700	Gas Atomized	▪ Very high oxidation and erosion resistance ▪ For water droplet erosion protection in steam turbines, high oxidation resistance in coal-fired boilers

MCrAlY Alloys

Nickel Base

Chemistry	Particle Size	Product	Manufacture	Applications
NiCoCrAlY				Data Sheet DSMTS-0093
Ni 23Co 17Cr 12Al 0.5Y	-75 +38 μm	Amdry 365-2	Gas Atomized	▪ Excellent high temperature oxidation and hot corrosion resistance
	-45 +20 μm	Amdry 365-4		
	-45 +5 μm	Amdry 365-1		
Ni 22Co 17Cr 12Al 0.5Hf 0.5Y 0.4Si	-125 +53 μm	Amdry 386-3		▪ Excellent corrosion resistant bond coat ▪ Hafnium increases adhesion of the thermally grown oxide layer in Amdry 386 series and SPM4-2667
	-90 +38 μm	Amdry 386-4		
	-88 +38 μm	SPM4-2667		
	-88 +16 μm	Amdry 386-2		
	-75 +22 μm	Amdry 386-5		
	-63 +22 μm	Amdry 386-2.5		
	-63 +5 μm	Amdry 386		
Ni 23Co 20Cr 8.5Al 4Ta 0.6Y	-38 +5 μm	Amdry 997		▪ Amdry 997 is a premium grade material with superior high temperature oxidation resistance ▪ Service up to 1050 °C (1920 °F)
NiCrAlCoY ₂ O ₃				Data Sheet DSMTS-0096
Ni 17.5Cr 5.5Al 2.5Co 0.5Y ₂ O ₃	-150 +45 μm	Metco 461NS	Mechanically Clad	▪ For high temperature bond coats or salvage of worn/mismachined parts ▪ Service up to 980 °C (1800 °F)
NiCrAlY				Data Sheet DSMTS-0102
Ni 24.5Cr 6Al 0.4Y	-90 +45 μm	Amdry 963	Gas Atomized	▪ Excellent high temperature oxidation resistance ▪ For use as thermal barrier and oxide ceramic abradable bond coats ▪ High temperature corrosion resistance for turbine engine components, heat treatment fixtures, exhaust manifolds and ducts ▪ Service up to 1050 °C (1920 °F)
Ni 22Cr 10Al 1.0Y	-106 +53 μm	Amdry 962		
	-90 +45 μm	Amdry 9621		
	-74 +45 μm	Amdry 9625		
	-37 +11 μm	Amdry 9624		
Ni 31Cr 11Al 0.6Y	-106 +37 μm	Amdry 964		

MCrAlY Alloys

Proprietary

Chemistry	Particle Size	Product	Manufacture	Applications
Proprietary MCrAlY Products			Data Sheet DSMTS-0094	
Proprietary	-90 +45 µm	Amdry 2231A	Gas Atomized	▪ High quality products made to exacting customer specifications ▪ Nickel or cobalt based MCrAlY materials ▪ Available only to OEM-approved purchasers of these materials ▪ Similar products differ by OEM specification approvals
	-45 +22 µm	Amdry 2231B		
	-75 +45 µm	Amdry 2231C		
	-45 +5.5 µm	Amdry 2231D		
	-37 +5.5 µm	Amdry 2453A		
	-45 +11 µm	Amdry 2464A		
	-63 +22 µm	Amdry 2464B		
	-45 +15 µm	Amdry 2464C		
	-90 +45 µm	Amdry 2464D		
	-45 +22 µm	Amdry 2464E		
	-75 +45 µm	Amdry 2464F		
	-45 +11 µm	Amdry 2464G		
	-44 +11 µm	Amdry 2479A		
	-63 +22 µm	Amdry 2479B		
	-90 +45 µm	Amdry 2479C		
	-44 +11 µm	Amdry 2483A		
	-63 +22 µm	Amdry 2483B		
	-90 +45 µm	Amdry 2483C		
	-45 +11 µm	Amdry 4522A		
	-50 +22 µm	Amdry 4522B		
	-90 +45 µm	Amdry 4522C		
	-90 +11 µm	Amdry 4522D		
	-45 +11 µm	Amdry 9800B		
	-90 +11 µm	Metco 4195		
	-45 +5.5 µm	Metco 4196A		
	-148 +5.5 µm	Metco 4196B		
	-90 +22 µm	Metco 4196C		
	-45 +11 µm	Metco 4198		
	-176 +45 µm	Metco 4199		
	-45 +5.5 µm	Metco 4200		
	-45 +16 µm	Metco 4516		
	proprietary	Metco 4518D		
	-148 +44 µm	Metco 4518E		

Metals, Alloys, Composites and Blends

Aluminum Base

Chemistry	Particle Size	Product	Manufacture	Applications
Aluminum (Pure)			Data Sheet DSMTS-0050	
Al 99.0+	-90 +45 μm	Metco 54NS	Gas Atomized	▪ Good electrical and thermal conductivity; non-magnetic, can be used for RF shielding ▪ Corrosion resistant in coastal and industrial atmospheric conditions ▪ Relatively soft and ductile ▪ Use to repair aluminum and magnesium alloy parts ▪ Note: subject to export control
	-75 +45 μm	Metco 54NS-1		
Aluminum Silicon			Data Sheet DSMTS-0045	
Al 12Si	-90 +45 μm	Metco 52C-NS	Gas Atomized	▪ Used to repair aluminum and magnesium alloy parts ▪ Silicon reduces coating shrinkage and increases hardness ▪ More abrasion resistant than pure aluminum ▪ Finishes well
	-45 μm	Amdry 355		

Cobalt Base *

Chemistry	Particle Size	Product	Manufacture	Applications
Cobalt Chromium Tungsten (Stellite Type)				Data Sheet DSMTS-0074
Co 23.4Cr 10Ni 7W 3.5Ta 0.6C	-45 +5 µm	Amdry MM509	Gas Atomized	- Similar to Stellite - Coatings resist abrasion, fretting and particle erosion - Use for surface restoration of cobalt alloy worn or damaged parts - Use on turbine airfoils and combustors - Service up to 840 °C (1550 °F)
	-106 +37 µm	Amdry X40		
Co 25.5Cr 10.5Ni 7.5W 0.5C	-75 +45 µm	Metco 45C-NS		
	-45 +5 µm	Metco 45VF-NS		
Co 28.5Cr 4.5W 1.6Si 1C	-45 +11 µm	Diamalloy 4060NS		
CoCrAlY Silicon Hexagonal Boron Nitride				Data Sheet DSMTS-0018
Co 25Cr 5Al 0.27Y 1.75Si 15hBN	-177 +10 µm	Amdry 958	Blended	- Combats fretting on compressor blade roots - Compatible with titanium blades - Effective on large blades under high stress in service - Superior performance compared to CuNiIn coatings - Service up to 450 °C (840 °F)
Cobalt Molybdenum Chromium Silicon (Tribaloy Type)				Data Sheet DSMTS-0079
Co 28.5Mo 17.5Cr 3.4Si SIMILAR TO TRIBALLOY T-800	-45 +10 µm	Metco 4800	Gas Atomized	- Similar to Tribaloy - Excellent high temperature sliding wear and self-lubricating
	-45 +10 µm	Metco 68F-NS-1		
	-45 +5.5 µm	Diamalloy 3001		
Co 28.5Mo 8.5Cr 2.6Si SIMILAR TO TRIBALLOY T-400	-45 +10 µm	Metco 66F-NS	Water Atomized	Resists corrosive environments such as HCl, H₂SO₄, HCO₂H and salt water
	-45 +5.5 µm	Diamalloy 3002NS		

* Excluding Self-Fluxing alloys and MCrAlY alloys, which can be found in other sections of this guide

Metals, Alloys, Composites and Blends

Copper Base

Chemistry	Particle Size	Product	Manufacture	Applications
Copper (Pure)			Data Sheet DSMTS-0104	
Cu 99+	-75 +31 μm	Diamalloy 1007	Gas Atomized	▪ Excellent electrical and thermal conductivity; non-magnetic and usable for EMI shielding ▪ Resistant to corrosive inks ▪ Use to repair copper-base alloy parts
	-90 +38 μm	Metco 55		
Copper Aluminum (Aluminum Bronze)			Data Sheet DSMTS-0103	
Cu 10Al	-106 +45 μm	Metco 445	Clad	▪ Moderate oxidation, wear and fretting resistance ▪ Good dry running properties ▪ For build-up and repair of copper base alloy parts ▪ Typically used on pumps (cavitation control), piston guides, shifter forks and compressor air seals
Cu 9.5Al 1Fe	-125 +45 μm	Metco 51NS	Gas Atomized	
	-53 +5 μm	Metco 51F-NS		
	-53 +5 μm	Diamalloy 1004		
Copper Nickel			Data Sheet DSMTS-0061	
Cu 38Ni	-75 +45 μm	Metco 57NS	Gas Atomized	▪ Produces dense coatings resistant to galling and fretting ▪ Indium improves anti-galling and lubricity ▪ For jet engine turbine blade roots and disk slots ▪ Similar products differ by OEM specification approvals ▪ Service up to 315 °C (600 °F)
Cu 36Ni 5In	-75 +45 μm	Amdry 500C		
	-75 +45 μm	Metco 58NS		
	-45 +11 μm	Amdry 500F		

Iron Base *

Chemistry	Particle Size	Product	Manufacture	Applications
Speciality Iron-Based Products			Data Sheet DSMTS-0081	
Fe 18Cr 12Mo 4Ni 3.5Si 3B 2.5Cu 0.6C	-45 +5.5 µm	Diamalloy 1008	Blended	▪ For hard surfaces in corrosive wear applications ▪ For plastic industry extrusion screws, hydraulic piston rods and pump shafts, glass manufacturing moulds and baffles, valve facing ▪ Service up to 650 °C (1200 °F)
Fe 28Cr 16Ni 4.5Mo 1.5Si 1.75C	-45 +16 µm	Diamalloy 1010	Gas Atomized	
Fe 33Cr 8Ni 4.8B 0.6C	-53 +20 µm	Diamalloy 1009		
Iron Chromium Nickel - 400 Series Ferritic and Martensitic Stainless Steel			Data Sheet DSMTS-0080	
Fe 12Cr 0.15C SIMILAR TO 420 STEEL	-45 +15 µm	Diamalloy 1002	Water Atomized	▪ Martensitic type stainless steel ▪ Used mostly for repair and wear applications that require a hard ground finish
Fe 17Cr 2Ni 0.18C SIMILAR TO 431 STEEL	-106 +45 µm	Metco 42C		
Iron Chromium Nickel - 300 Series Austenitic Stainless Steel			Data Sheet DSMTS-0078	
Fe 17Cr 12Ni 2.5Mo 2.3Si 0.03C SIMILAR TO 316L STEEL	-106 +45 µm	Metco 41C	Water Atomized	▪ Austenitic type stainless steel ▪ For protection against corrosion, cavitation, low temperature particle erosion and salvage and repair ▪ Service up to 540 °C (1000 °F)
	-90 +45 µm	Metco 41A	Gas Atomized	
	-53 +20 µm	Diamalloy 1003-1		
	-45 +11 µm	Diamalloy 1003		
Fe 17Cr 12Ni 2.5Mo 0.75Si SIMILAR TO 316L STEEL	-53 +20 µm	Diamalloy 1013		
Iron Molybdenum Carbon			Data Sheet DSMTS-0046	
Fe 16Mo 2C 0.25Mn	-90 +11 µm	Metco 350NS	Mechanically Clad	▪ Alternative to hard chromium plating ▪ Excellent scuff resistance, good wear and corrosion resistance ▪ Service up to 340 °C (650 °F)

* Excluding MCrAlY alloys, which can be found in other sections of this guide

Metals, Alloys, Composites and Blends

Iron Base

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Iron Nickel Aluminum				Data Sheet DSMTS-0054
Fe 35Ni 6Al	-125 +45 µm	Metco 452	Mechanically Clad	- Hard coatings, good oxidation and hot corrosion resistance - For salvage and restoration of ferrous alloys - Molybdenum in Metco 453 improves toughness - Service up to 815 °C (1500 °F)
Fe 37Ni 5.8Al	-125 +45 µm	Amdry 959		
Fe 30Ni 6Al 6Mo	-125 +45 µm	Metco 453		

Molybdenum Base

Chemistry	Particle Size	Product	Manufacture	Applications
Molybdenum (Pure)				Data Sheet DSMTS-0105
Mo 99.5+	-75 +38 µm	Amdry 313X	Agglomerated & Densified	- Tough and hard with excellent sliding properties and good running properties - Resists fretting and electric arc erosion
	-75 +30 µm	Metco 63NS	Sintered & Crushed	
Mo 99.0+	-45 +16 µm	Metco 4063	Agglomerated & Sintered	Service up to 320 °C (610 °F)
Molybdenum - Self-Fluxing Alloy Blends				Data Sheet DSMTS-0107
Mo 25(NiCrBSiFe)	-90 +25 µm	Amdry 1371	Blended	- Self-fusing - High wear resistance, low frictional coefficient, good scuff resistance - Produces hard coatings for bearing surfaces and abrasive wear resistance - Service up to 350 °C (660 °F)

Nickel Base *

Chemistry	Particle Size	Product	Manufacture	Applications
Nickel (Pure)				Data Sheet DSMTS-0062
Ni 99.8	-150 +45 µm	Metco 56VC	Precipitated	- For salvage and build-up of nickel-based components to repair damage or mis-machining - Can replace Monel for corrosion applications when slightly higher hardness and machinability is needed
Ni 99.3	-75 +45 µm	Metco 56C-NS		
Nickel 5% Aluminum				Data Sheet DSMTS-0043
Ni 3.8Al	-90 +45 µm	Metco 450P	Mechanically Clad	- Dense, machinable oxidation resistant and abrasion resistant coatings - Self-bonding - Clad products produce an exothermic reaction during spraying, excellent bond strength - For salvage and build-up on machinable carbon and corrosion-resistant steels
Ni 5Al	-90 +45 µm	Amdry 956		
	-90 +45 µm	Metco 450NS		
	-90 +45 µm	Metco 480NS	Gas Atomized	- Bond coat for thermal sprayed ceramic and abradable materials - Service up to 800 °C (1470 °F)
	-45 +11 µm	Diamalloy 4008NS		

* Excluding Self-Fluxing alloys and MCrAlY alloys, which can be found in other sections of this guide

Metals, Alloys, Composites and Blends

Nickel Base

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Nickel 20% Aluminum			Data Sheet DSMTS-0029	
Ni 20Al	-90 +53 μm	Metco 404NS	Chemically Clad	- Dense, machinable oxidation resistant and abrasion resistant coatings - Self-bonding - Exothermic reaction during spraying, excellent bond strength, better than Ni 5Al materials - For salvage and build-up on machinable carbon and corrosion-resistant steels - Bond coat for ceramic and abradable materials - Service up to 650 °C (1200 °F)
	-125 +45 μm	Metco 2101ZB		
Nickel Chromium			Data Sheet DSMTS-0109	
Ni 20Cr	-106 +45 μm	Metco 43C-NS	Water Atomized	- Resists hot oxidizing and corrosive gases, and prevents scaling on carbon and low alloy steels - Good bond coat for ceramic top coats - Chromium enhances corrosion resistance - Service up to 980 °C (1800 °F)
	-63 +10 μm	Metco 43F-NS		
	-45 +5 μm	Metco 43VF-NS		
	-125 +45 μm	Metco 5640NS	Gas Atomized	
	-53 +11 μm	Amdry 4535		
Nickel Chromium Aluminum			Data Sheet DSMTS-0091	
Ni 18.5Cr 6Al	-125 +45 μm	Metco 443NS	Mechanically Clad	- Self-bonding when plasma sprayed - Bond coat for ceramics or salvage and build-up on nickel, nickel alloy or machinable steels - Amdry 510 recommended for anilox roll bond coat
	-125 +45 μm	Amdry 960		
Ni 22Cr 10Al	-44 +22 μm	Amdry 510	Gas Atomized	- Resists oxidation and corrosion at high temperatures - Service up to 980 °C (1800 °F)
Nickel Chromium Aluminum Molybdenum			Data Sheet DSMTS-0095	
Ni 9Cr 7Al 5.5Mo 5Fe	-125 +45 μm	Metco 444	Mechanically Clad	- Self-bonding - Moderate wear and abrasion resistance and corrosion resistance - Good machinability - Metco442: For salvage and build-up or bond coat on carbon and corrosion resistant steels - Service up to 760 °C (1400 °F)
Ni 8.5Cr 7Al 5Mo 2Si 2B 2Fe 3Al ₂ O ₃	-125 +45 μm	Metco 442		
Nickel Chromium Superalloys (Inconel Type)			Data Sheet DSMTS-0085	
Ni 19Cr 18Fe 3Mo 0.5Al 5.1(Nb+Ta) 0.95Ti 0.05C SIMILAR TO INCONEL 718	-125 +45 μm	Amdry 718	Gas Atomized	- Dense, self-bonding - Excellent high temperature oxidation and corrosion resistance - For repair of superalloy components and protection for less noble substrates - Machinable and drillable, excellent edge retention - Service up to: 982 °C (1800 °F) (Inconel 625) 704 °C (1300 °F) (Inconel 718)
	-90 +45 μm	Amdry 718 Cl.B		
	-45 +15 μm	Amdry 1718		
	-45 +11 μm	Diamalloy 1006		
Ni 21.5Cr 2.5Fe 9.0Mo 3.7(Nb+Ta) SIMILAR TO INCONEL 625	-90 +45 μm	Amdry 625		
	-53 +20 μm	Diamalloy 1005A		
	-45 +11 μm	Diamalloy 1005		
Nickel Chromium Cobalt Superalloy (Rene Type)				
Ni 14Cr 9.5Co 5Ti 4Mo 4W 3Al SIMILAR TO RENE 80	-45 +11 μm	Diamalloy 4004NS	Gas Atomized	- Excellent high temperature oxidation and corrosion resistance - For repair of nickel-based superalloy components

Metals, Alloys, Composites and Blends

Nickel Base

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Nickel Chromium Tungsten Molybdenum Superalloys				Data Sheet DSMTS-0086
Ni 20.5Cr 10W 9Mo 4Cu 1Fe 0.75C 0.75B	-53 +11 µm	Diamalloy 4006	Water Atomized	- High temperature corrosion and oxidation resistance - Diamalloy 4006 resists abrasion, sliding wear, scuffing and galling
Ni 15.5Cr 4.5W 16Mo 4Fe SIMILAR TO HASTELLOY C276	-53 +20 µm	Diamalloy 4276	Gas Atomized	- Diamalloy 4276 resists crevice corrosion, pitting, sulfuric acid and chlorine - Service up to 980 °C (1800 °F)
Nickel Molybdenum Aluminum				Data Sheet DSMTS-0111
Ni 5Mo 5.5Al	-90 +45 µm	Metco 447NS	Mechanically Clad	- Produces self-bonding, general purpose, fairly hard coatings for bearing applications - Tough, good erosion and impact resistance - For machine elements, bearing seats, valves

Silicon Base

Chemistry	Particle Size	Product	Manufacture	Applications
Silicon Metalloid (Pure)				Data Sheet DSMTS-0125
Si 99.0+	-75 +15 µm	Metco 4810	Fused & Crushed	- Low thermal expansion coefficient, excellent thermal shock resistance and thermal stability - Ideal environmental barrier coating (EBC) bond coat for ceramic matrix composites (CMCs) - Service up to 1300 °C (2370 °F)
Si 99.5+	-45 +15 µm	Metco 4811	Plasma Densified	

Metals, Alloys, Composites and Blends

Titanium Base

Chemistry	Particle Size	Product	Manufacture	Applications
Titanium (Pure) and Titanium Alloys			Data Sheet DSMTS-0089	
Ti Grade 1	-106 +45 µm	Metco 4012A	HDH - wrought	▪ Biocompatibility for medical applications ▪ Can produce coatings with porous structures for implants ▪ Corrosion resistant ▪ Bond coat for hydroxyapatite top coats ▪ Choose by size and manufacturing method for thermal spray, cold spray, laser cladding, high-speed laser cladding, metal injection molding, hot and cold isostatic pressing ▪ HDH - wrought: Hydride-dehydride from wrought raw material; dense particles with angular / blocky morphology ▪ HDH - sponge: hydride-dehydride process from sponge raw material; porous particles with angular / blocky morphology ▪ Atomized: dense particles with spheroidal morphology ▪ Service up to 400 °C (750 °F)
	-106 +45 µm	Metco 4023B	Atomized	
Ti Grade 2	-106 +45 µm	Metco 4013A	HDH - wrought	
	-106 +45 µm	Metco 4024B	Atomized	
Ti Grade 3	-25 +5 µm	Metco 4027A		
Ti Grade 4	-350 +200 µm	Metco 4010E	HDH - wrought	
	-250 +90 µm	Metco 4010D		
	-180 +75 µm	Metco 4010B		
	-90 +22 µm	Metco 4010A		
	-45 +11 µm	Metco 4010C	HDH - sponge	
	-180 +75 µm	Metco 4016A		
	-125 +90 µm	Metco 4016B		
	-25 +5 µm	Metco 4028A		
Ti 6Al 4V Grade 5	-250 +150 µm	Metco 4030A	HDH - wrought	
	-180 +75 µm	Metco 4030B		
	-106 +45 µm	Metco 4030C		
	-106 +45 µm	Metco 4031A	Atomized	
	-45 +20 µm	Metco 4031C		
	-25 +5 µm	Metco 4031B		
Ti 6Al 4V Grade 23	-106 +45 µm	Metco 4032A	HDH - wrought	
	-106 +45 µm	Metco 4033A	Atomized	
	-45 +20 µm	Metco 4033C		

Self-Fluxing

Standard Alloys

Chemistry	Particle Size	Product	Manufacture	Applications
Cobalt-Based and Nickel-Based Standard Self-Fluxing Alloys			Data Sheet DSMTS-0026	
Co 27Ni 18Cr 6Mo 3.5Si 3B 2.5Fe 0.2C	-125 +53 μm	Metco 18C	Gas Atomized	▪ Self-fluxing; post-coat fuse for dense, virtually porosity free, metallurgically bonded coatings ▪ Enhanced wear and corrosion resistance ▪ For industrial applications such as hot crushing rolls, forging tools, extrusion dies, screw conveyors, chip breakers, shafts, etc. ▪ Metco 12C: moderate wear resistance, very good machinability ▪ Metco 14E: hard, thick, wear resistant coatings ▪ Metco 15E, Metco 15F, Diamalloy 2001: high hardness and wear resistance ▪ Metco 18C: use when substrate cracking is an issue ▪ Metco 16C-NS: superior resistance to acids and aqueous media ▪ Metco 7010 and Amdry 7050: chromium free; can be blended with carbide materials for higher wear resistance; suitable for thermal spray, spray and fuse welding and PTA ▪ Service up to 540 °C (1000 °F)
Ni 7.5Cr 3.5Si 2.5Fe 1.7B 0.25C	-125 +53 μm	Metco 12C		
Ni 11Cr 3.7Si 2.75Fe 2.2B 0.5C	-125 +45 μm	Metco 14E		
Ni 17Cr 4Fe 4Si 3.5B 1C	-106 +45 μm	Metco 15E		
	-53 +15 μm	Metco 15F		
	-45 +15 μm	Diamalloy 2001		
Ni 1.8B 3.5Si	-180 +53 μm	Metco 7010	Gas Atomized Blend	
Ni 3B 3Si	-180 +45 μm	Amdry 7050		
Ni 17Cr 4Si 3.7B 3.0Fe 2.5Cu 2.5Mo 0.6C	-125 +53 μm	Metco 16C-NS		

With Hardphase

Chemistry	Particle Size	Product	Manufacture	Applications
Self-Fluxing Alloys with Tungsten Carbide			Data Sheet DSMTS-0077	
65(Ni 17.5Cr 4Fe 4Si 4B 0.5C) 35(WC 12Co)	-125 +45 µm	Metco 31C-NS	Blended	▪ Self-fluxing; post-coat fuse for dense, virtually porosity free, metallurgically bonded coatings ▪ Resists particle erosion and abrasion ▪ For applications such as pump seals, wire capstans, hydroelectric valves, plug gages, etc. ▪ Metco 31C-NS, Metco 36C, Woka 7702: highest corrosion resistance ▪ Metco 32C, Metco 36C: highest wear resistance ▪ Metco 34F, Metco 34FP, Diamalloy 2002: best for thin smooth coatings; can be used unfused ▪ Metco 36C, Woka 7702, Woka 7702, Woka 7703: less brittle; lower tendency to crack ▪ Woka 7702: best abrasion and slurry abrasion resistance ▪ Woka 50454: corrosion and impact resistance ▪ Woka 53194, Woka 53141: corrosion, erosion and sliding wear resistance ▪ Service up to 540 °C (1000 °F)
20(Ni 17.5Cr 4Fe 4Si 4B 0.5C) 80(WC 12Co)	-125 +45 µm	Metco 32C		
50(Ni 17.5Cr 4Fe 4Si 4B 0.5C) 50(WC 12Co)	-53 +15 µm	Metco 34F		
	-53 +15 µm	Metco 34FP		
50(Ni 18Cr 7Fe 4Si 4B 1C) 50(WC 12Co)	-45 +11 µm	Diamalloy 2002		
60(Ni 16.5Cr 3.7Si 3.5Fe 3.4B 0.9C) 40(WC 12Co)	-106 +45 µm	WOKA 7702		
60(Ni 15Cr 4.4Si 3.5Fe 3.2B 0.7C) 40(WC 12Co)	-106 +45 µm	WOKA 7703		
65(Ni 16.5Cr 3.7Si 3.5Fe 3.4B 0.9C) 35(WC 12Co)	-106 +45 µm	WOKA 7701		
65(Ni 17.5Cr 4Fe 4Si 4B 0.5C) 35(WC 8Ni)	-150 +45 µm	Metco 36C		
60(Ni 7Cr 3.5Fe 3.2B 4.4Si 0.7C) 40WC	-106 +32 µm	WOKA 53141		
50(Ni 15Cr 4.4Si 3.2Fe 3.2B 0.7C) 50(WC 12Ni)	-106 +20 µm	WOKA 50454		
40(Ni 15Cr 4.4Si 3.2Fe 3.2B 0.7C) 60(WC 12Ni)	-106 +20 µm	WOKA 53194		

Self-Fluxing

Hardfacing Alloys

Chemistry	Particle Size	Product	Manufacture	Applications
Self-Fusing Chromium Carbide Blends			Data Sheet DSMTS-0067	
Cr ₃ C ₂ 7(Ni 20Cr) Self-Fusing Nickel Alloy	-75 +10 µm	Metco 430NS	Blended	- Self-fluxing when fusing is not desirable - High toughness without cracking - For hot crushing rolls, fuel rod mandrels, exhaust valves and seats - Service up to 820 °C (1500 °F)
Self-Fusing Tungsten Carbide Blends			Data Sheet DSMTS-0090	
50(Ni 5.8Cr 2.8Al 1.4Fe 1.4Si 1.3B 0.3C) - 50(WC 12Co)	-63 +11 µm	Metco 439NS	Blended	Self-fluxing when fusing is not desirable such as thin-walled components and components that may distort if fused
50(Ni 5.8Cr 0.7Al 1.4Fe 1.4Si 1.3B 0.3C) - 50(WC 12Co)	-75 +11 µm	Metco 439NS-2		Some fusing occurs when plasma sprayed
25(Ni 4.3Cr 1Fe 1Si 0.9B 0.2C) - 75(WC 12Co)	-90 +31 µm	Metco 1123		- For digestors, liquor tanks, manifolds, centrifugal fans in coal and oil plants - Service up to 500 °C (930 °F)

Carbides

Chromium Carbide

Chemistry	Particle Size	Product	Manufacture	Applications
Chromium Carbide			Data Sheet DSMTS-0087	
Cr ₃ C ₂	-106 +45 μm	Metco 70C-NS	Sintered & Crushed	▪ High microhardness (1200 HV300) and wear resistance at elevated temperatures; relatively poor interparticle strength ▪ For hot forming dies, mandrels, hydraulic valves, machine parts ▪ Service up to 535 °C (1000 °F)
	-44 μm	Metco 70F-NS		
Chromium Carbide - Nickel Chromium Blends			Data Sheet DSMTS-0042	
Cr ₃ C ₂ 7(Ni 20Cr)	-45 +5.5 μm	Metco 82VF-NS	Blended	▪ Choose higher carbide content for higher hardness and resistance to fretting, abrasion and particle erosion ▪ For turbine components: air seals, baffle dampers, nozzle supports, valve seats, struts ▪ For hot crushing rolls, forming dies, forging tools ▪ Service up to 870 °C (1600 °F)
Cr ₃ C ₂ 10(Ni 20Cr)	-45 +5 μm	Amdry 367		
Cr ₃ C ₂ 25(Ni 20Cr)	-106 +11 μm	Metco 81NS		
	-45 +5.5 μm	Diamalloy 3004		
	-45 +5 μm	Metco 81VF-NS		
Chromium Carbide - Nickel Chromium - Chemically Clad			Data Sheet DSMTS-0022	
Cr ₃ C ₂ 20(Ni 20Cr)	-45 +5.5 μm	Diamalloy 3007	Chemically Clad	▪ For wear, oxidation resistance ▪ Minimal decarburization and oxidation during spraying ▪ High coating density ▪ Service up to 870 °C (1600 °F)
Chromium Carbide - 20% Nickel Chromium - Agglomerated & Sintered			Data Sheet DSMTS-0027	
Cr ₃ C ₂ 20(Ni 20Cr)	-53 +20 μm	WOKA 7101	Agglomerated & Sintered	▪ Resists solid particle erosion, abrasion, tribo-corrosion, cavitation ▪ Excellent hard chromium plating alternative for NaCl and NaOH environments ▪ Minimal decarburization during spraying ▪ Choose product by HVOF gun to be used and desired surface finish ▪ Service up to 870 °C (1600 °F)
	-45 +20 μm	WOKA 7107		
	-45 +15 μm	WOKA 7102		
	-45 +11 μm	WOKA 7103		
	-38 +10 μm	WOKA 7105		
	-30 +10 μm	WOKA 7104		
Chromium Carbide - 25% Nickel Chromium - Agglomerated & Sintered			Data Sheet DSMTS-0031	
Cr ₃ C ₂ 25(Ni 20Cr)	-106 +45 μm	WOKA 7215	Agglomerated & Sintered	▪ Resists solid particle erosion, abrasion, tribocorrosion ▪ Excellent hard chromium plating alternative with better chloride, acidic and alkaline resistance ▪ Minimal decarburization during spraying ▪ Select product by spray gun and process to be used and desired surface finish ▪ Service up to 870 °C (1600 °F)
	-75 +45 μm	WOKA 7218		
	-63 +20 μm	WOKA 7219		
	-53 +20 μm	WOKA 7201		
	-45 +20 μm	WOKA 7207		
	-45 +15 μm	WOKA 7202		
	-45 +11 μm	WOKA 7203		
	-38 +10 μm	WOKA 7205		
	-30 +10 μm	WOKA 7204		
	-25 +5 μm	WOKA 7210		

Carbides

Chromium Carbide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Chromium Carbide - 25% Nickel Chromium - Agglomerated & Densified				Data Sheet DSMTS-0058
Cr ₃ C ₂ 25(Ni 20Cr)	-53 +11 μm	Amdry 5260	Agglomerated & Plasma Densified	▪ Resists solid particle erosion, abrasion, tribo-corrosion, high temperature corrosion ▪ Excellent hard chromium plating alternative with better chloride, acidic and alkaline resistance ▪ Minimal decarburization during spraying ▪ Densification improves coating density and corrosion resistance ▪ Select Amdry 5260 to meet aerospace specifications ▪ Choose product by HVOF gun to be used and desired surface finish ▪ Service up to 870 °C (1600 °F)
	-53 +20 μm	WOKA 7301	Agglomerated, Sintered & Plasma Densified	
	-45 +20 μm	WOKA 7307		
	-45 +15 μm	WOKA 7302		
	-45 +11 μm	WOKA 7303		
	-38 +10 μm	WOKA 7305		
	-30 +10 μm	WOKA 7304		
	-25 +5 μm	WOKA 7310		
Chromium Carbide - 37% Tungsten Carbide - 18% Metal Alloy				Data Sheet DSMTS-0056
Cr ₃ C ₂ 37WC 18Metal Alloy	-45 +20 μm	WOKA 7507	Agglomerated & Sintered	▪ Excellent abrasion and cavitation resistance, good hardness ▪ Resists harsh, complex corrosive media ▪ Ideal for pumps, boiler tubes, incinerator fire walls ▪ Choose product by HVOF gun to be used and desired surface finish ▪ Service up to 700 °C (1290 °F)
	-45 +15 μm	WOKA 7502		
	-45 +11 μm	WOKA 7503		
	-38 +10 μm	WOKA 7505		
	-30 +10 μm	WOKA 7504		
Chromium Nickel Carbide				Data Sheet DSMTS-0112
Cr 34Ni 7C	-53 +15 μm	Metco 5241	Gas Atomized Blend	▪ Excellent erosion and oxidation resistance; good wear and corrosion resistance ▪ Excellent superfinished surface ▪ Ideal hard chromium alternative ▪ For ball valves, hydraulic rods, boiler tubes, turbine component, textile rolls, exhaust stacks ▪ Service up to 900 °C (1650 °F)
Chromium Carbide MCrAlY Blend				Data Sheet DSMTS-0048
Cr ₃ C ₂ 25(NiCrAlY)	-45 +5.5 μm	Metco 5546NS	Blended	▪ Excellent erosion resistance, good toughness, oxidation and hot corrosion resistance ▪ For turbine components, fuel rod mandrels, forging tools, hot crushing rolls, forming dies ▪ Service up to 870 °C (1600 °F)

Tungsten Carbide

Chemistry	Particle Size	Product	Manufacture	Applications
Tungsten Carbide 12% Cobalt - Fused & Crushed				Data Sheet DSMTS-0114
W ₂ C / WC 12Co	-90 +53 μm	Metco 71NS	Fused & Crushed	▪ Resists abrasion, erosion; good sliding wear and fretting resistance ▪ Dense coatings with good bond strengths ▪ Not for corrosive media ▪ For machine parts, pump housings, etc. ▪ Service up to 500 °C (930 °F)
	-45 +5 μm	Metco 71VF-NS		
	-45 +5 μm	Metco 71VF-NS-1		
	-38 +5 μm	Diamalloy 2003		
Tungsten Carbide 12% Cobalt - Sintered & Crushed				Data Sheet DSMTS-0115
WC 12Co	-45 +11 μm	Metco 72F-NS	Sintered & Crushed	▪ Good abrasion, fretting, erosion and sliding wear resistance in dry media ▪ Dense coatings with good bond strengths ▪ For machine parts, pump housings, etc. ▪ Service up to 500 °C (930 °F)
	-45 +5 μm	Diamalloy 2004		

Carbides

Tungsten Carbide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Tungsten Carbide 12% Cobalt - Agglomerated & Sintered				Data Sheet DSMTS-0044
WC 12Co	-90 +45 µm	WOKA 3108	Agglomerated & Sintered	- Good sliding wear, impact, abrasion, fretting resistance - Hard, dense, well-bonded - Best for dry environments - For steel rolls, sink rolls, exhaust fans, pump housings, conveyor screws, sucker rod couplings, etc. - Choose product by process and spray gun to be used and desired surface finish "FC" products have submicron carbides ideal for corrugating rolls - HVOF or HVOF application - Service up to 500 °C (930 °F)
	-75 +45 µm	WOKA 3118		
	-53 +20 µm	WOKA 3101		
	-53 +15 µm	WOKA 3106		
	-45 +15 µm	WOKA 3102		
	-45 +11 µm	WOKA 3103		
	-38 +10 µm	WOKA 3105		
	-30 +10 µm	WOKA 3104		
	-25 +5 µm	WOKA 3110 FC		
	-20 +5 µm	WOKA 3111 FC		
Tungsten Carbide 17% Cobalt				Data Sheet DSMTS-0030
WC 17Co	-90 +45 µm	WOKA 3208	Agglomerated & Sintered	- Medium-fine carbide size - High toughness and ductility; high fretting resistance - Use in non-corrosive media - Economical choices for industrial applications such as pump seals, extrusion dies and crushing rolls - Select product by process and spray gun to be used and desired surface finished - Service up to 500 °C (930 °F)
	-53 +20 µm	WOKA 3201		
	-53 +15 µm	WOKA 3206		
	-53 +11 µm	WOKA 3223		
	-45 +20 µm	WOKA 3207		
	-45 +15 µm	WOKA 3202		
	-45 +11 µm	WOKA 3203		
	-38 +10 µm	WOKA 3205		
	-30 +10 µm	WOKA 3204		
	-53 +11 µm	Amdry 9831	Agglomerated & Sintered	- For landing gear, flap tracks and mid-span shrouds - Amdry 9831 and Metco 73 series have coarse carbides for plasma spray - Diamalloy 2005NS, Diamalloy 2005NS-1 (DiamondJet applied) and Metco 5143 for aero use with Almen requirements - Similar products differ by OEM specification approvals - Service up to 500 °C (930 °F)
	-53 +11 µm	Diamalloy 2005NS-1		
	-53 +11 µm	Metco 73F-NS-1		
	-53 +11 µm	Metco 73F-NS-2		
	-45 +15 µm	Metco 5143		
	-45 +11 µm	Metco 73F-NS-1 (-45)		
	-45 +5.5 µm	Diamalloy 2005NS		
	-38 +5.5 µm	Metco 73SF-NS		
Tungsten Carbide 20% Cobalt				Data Sheet DSMTS-0116
WC 20Co	-90 +38 µm	Amdry 5670	Sintered & Crushed	- Very ductile - Formulated for combustion powder spray or atmospheric plasma spray - Coarse as-sprayed finish for traction or gripping applications - Service up to 500 °C (930 °F)
	-53 +11 µm	Metco 76F-NS		

Carbides

Tungsten Carbide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Tungsten Carbide 10% Nickel			Data Sheet DSMTS-0057	
WC 10Ni	-53 +20 μm	WOKA 3301	Agglomerated & Sintered	▪ Resists hammer, fretting, abrasion and sliding wear ▪ More corrosion-resistant and tougher than WC-Co, but lower hardness ▪ Higher hardness, but lower toughness than WC 12Ni ▪ For ball valves, gate valves, oil field equipment ▪ Cobalt-free: may be used in radioactive environments ▪ Service up to 500 °C (930 °F)
	-45 +20 μm	WOKA 3307		
	-45 +15 μm	WOKA 3302		
	-45 +11 μm	WOKA 3303		
	-45 +5 μm	WOKA 3309		
	-38 +10 μm	WOKA 3305		
	-30 +10 μm	WOKA 3304		
	-30 +5 μm	WOKA 3332		
Tungsten Carbide 12% Nickel			Data Sheet DSMTS-0129	
WC 12Ni	-53 +20 μm	WOKA 3401	Agglomerated & Sintered	▪ Resists hammer, fretting, abrasion and sliding wear ▪ More corrosion-resistant and tougher than WC-Co, but lower hardness ▪ Higher toughness, but lower hardness than WC 10Ni ▪ For ball valves, gate valves, oil field equipment ▪ Cobalt-free: may be used in radioactive environments ▪ Service up to 500 °C (930 °F)
	-45 +20 μm	WOKA 3406		
	-45 +15 μm	WOKA 3402		
	-45 +11 μm	WOKA 3403		
	-30 +10 μm	WOKA 3404		
	-30 +5 μm	WOKA 3408		
Tungsten Carbide 17% Nickel			Data Sheet DSMTS-0055	
WC 17Ni	-106 +75 μm	WOKA 3534	Agglomerated & Sintered	▪ Resists hammer, fretting, abrasion and sliding wear ▪ More corrosion-resistant and tougher than WC-Co, but hardness is lower ▪ Higher toughness, but lower hardness than WC 12Ni ▪ For ball valves, gate valves, oil field equipment ▪ Cobalt-free: may be used in radioactive environments ▪ Service up to 500 °C (930 °F)
	-53 +20 μm	WOKA 3501		
	-53 +15 μm	WOKA 3506		
	-45 +15 μm	WOKA 3502		
	-45 +11 μm	WOKA 3503		
	-38 +10 μm	WOKA 3505		
Tungsten Carbide 12% Cobalt 25% Nickel			Data Sheet DSMTS-0073	
(WC 12Co) 25(Ni-Based Superalloy)	-63 +5 μm	Metco 5803	Blended	▪ Excellent corrosion resistance; resists abra-sion, fretting, erosion, sliding wear ▪ Ideal hard chromium alternative ▪ Easily machined; grindable ▪ Service up to 500 °C (930 °F)

Carbides

Tungsten Carbide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Tungsten Carbide 10% Cobalt 4% Chromium - Sintered & Crushed				Data Sheet DSMTS-0113
WC 10Co 4Cr	-45 +16 μm	Amdry 5843	Sintered & Crushed	▪ Better corrosion and cavitation resistance than WC-Co coatings ▪ Excellent erosion and abrasion resistance ▪ Ideal hard chromium alternative; resists wear in wet corrosive media ▪ Dense coatings, suitable for gate valves ▪ Service up to 500 °C (930 °F)
	-45 +11 μm	WOKA 3903		
Tungsten Carbide 10% Cobalt 4% Chromium - Agglomerated & Sintered				Data Sheet DSMTS-0025
WC 10Co 4Cr	-106 +45 μm	WOKA 3665	Agglomerated & Sintered	▪ Medium-fine carbide size ▪ Resists both corrosion and wear (abrasion, erosion fretting) ▪ For landing gears, shafts, actuators, pump seals, valves, etc. ▪ Excellent hard chromium plating alternative ▪ Select product by process and spray gun to be used and desired surface finish ▪ Service up to 500 °C (930 °F)
	-53 +20 μm	WOKA 3651		
	-45 +20 μm	WOKA 3657		
	-45 +15 μm	WOKA 3652		
	-45 +15 μm	WOKA 3652 AMS		
	-45 +11 μm	WOKA 3653		
	-38 +10 μm	WOKA 3655		
	-30 +10 μm	WOKA 3654		
	-53 +11 μm	Metco 5847	Agglomerated & Sintered	▪ Metco 5164, Metco 5165, Metco 5847 and Metco 5847-45 have lower apparent density for aerospace applications with Almen requirements ▪ Metco 5163 produces very dense coatings for industrial and aerospace applications without Almen requirements ▪ Metco 5163 achieves higher DE with right spray conditions ▪ Service up to 500 °C (930 °F)
	-45 +11 μm	Metco 5847-45		
	-45 +15 μm	Metco 5163		
	-45 +11 μm	Metco 5164		
	-38 +16 μm	Metco 5165		
	-45 +15 μm	WOKA 3652 FC	Agglomerated & Sintered	▪ “FC” products have submicron-sized carbides that increase hardness and improve abrasion and erosion resistance against fine particulate ▪ Excellent polished surface finish ▪ Suitable for calender rolls, corrugating rolls and doctor blades ▪ HVOF or HVAF application ▪ Service up to 500 °C (930 °F)
	-45 +11 μm	WOKA 3653 FC		
	-30 +15 μm	WOKA 3654 FC-1		
	-30 +10 μm	WOKA 3654 FC		
	-25 +5 μm	WOKA 3660 FC		
	-20 +5 μm	WOKA 3661 FC		
Tungsten Carbide 9% Cobalt 5% Chromium 1% Nickel				Data Sheet DSMTS-0051

Carbides

Tungsten Carbide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
WC 9Co 5Cr 1Ni	-75 +20 μm	WOKA 3644	Agglomerated & Sintered	Best for corrosion resistance coupled with high abrasion resistance
	-63 +20 μm	WOKA 3619		
	-53 +20 μm	WOKA 3601		
	-53 +15 μm	WOKA 3606		Excellent hard chromium alternative, particularly in HCl media
	-45 +20 μm	WOKA 3607		
	-45 +15 μm	WOKA 3602		
	-45 +11 μm	WOKA 3603		For mining carrier belt rollers, paper machinery rollers, slush pump rods, dump valves, pump seals, hydraulic rods, etc.
	-30 +10 μm	WOKA 3604		
	-30 +5 μm	WOKA 3632		
	-25 +10 μm	WOKA 3622		Service up to 500 °C (930 °F)
-25 +5 μm	WOKA 3610			
Tungsten Carbide 10% Nickel 5% Chromium				Data Sheet DSMTS-0108
WC 10Ni 5Cr	-45 +15 μm	WOKA 3552	Agglomerated & Sintered	- Cobalt-free matrix composition - Better corrosion resistance than WCCoCr - Has good impact, cavitation and droplet erosion resistance with fair abrasion and slurry erosion resistance - For oil drilling downhole mandrels, offshore application couplings, quenching rolls, sluice gate and transport system hydraulic rods, ball valves - Service up to 500 °C (930 °F)
Tungsten Carbide 20% Chromium Carbide 7% Nickel				Data Sheet DSMTS-0059
WC 20Cr ₃ C ₂ 7Ni	-53 +20 μm	WOKA 3701	Agglomerated & Sintered	- Excellent oxidation and corrosion resistance, especially in wet environments - Dense, smooth coatings - For oil field equipment, paper machinery, pump seals and rotors, ball valves, compressor shafts, etc. - WOKA 3702-1 applies with higher DE and lower porosity - Service up to 700 °C (1290 °F)
	-45 +20 μm	WOKA 3707		
	-45 +15 μm	WOKA 3702		
	-45 +15 μm	WOKA 3702-1		
	-45 +11 μm	WOKA 3703		

Cermets

Oxide Ceramic and Alloy Blends

Chemistry	Particle Size	Product	Manufacture	Applications
Aluminum Oxide – Nickel Aluminum Cermets				Data Sheet DSMTS-0066
Al ₂ O ₃ 30(Ni 20Al)	-90 +10 µm	Metco 410NS	Blended	- Resists abrasion, shock and thermal cycling better than alumina - For intermediate layer in graded coatings to prevent thermal expansion mismatch - May be used as an abrasive (cutting) coating in clearance control applications
Zirconium Oxide – Nickel Chromium Cermets				Data Sheet DSMTS-0070
MgZrO ₃ 35NiCr	-90 +11 µm	Metco 303NS-1	Blended	- Distributes thermal stresses to prevent spalling and thermal shock effects - For intermediate layer in 3-layer TBC coating systems - Service up to 900 °C (1650 °F)
MgZrO ₃ 26Ni 7Cr 2Al	-90 +11 µm	Metco 441NS-1		

Oxide Ceramics

Aluminum Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Aluminum Oxide (High Purity)			Data Sheet DSMTS-0023	
Al ₂ O ₃ 99.9+	-45 +15 μm	Metco 6103	Agglomerated & Sintered	▪ Superior dielectric and thermal insulation characteristics ▪ Resists wear, chemically inert, stable at high temperatures ▪ For electronics and semi-conductor production tooling, biomedical implants ▪ Service up to 1650 °C (3000 °F)
Aluminum Oxide (Pure)			Data Sheet DSMTS-0005	
Al ₂ O ₃ 99.5+	-45 +22 μm	Amdry 6062	Fused & Crushed	▪ Excellent dielectric and thermal insulation characteristics ▪ Resists wear, chemically inert, stable at high temperatures ▪ For vacuum chamber and furnace linings, corona rolls, biomedical implants, electrostatic chucks and capacitors, clearance control abrasive (cutting) coating ▪ Service up to 1650 °C (3000 °F)
	-45 +5 μm	Amdry 6060		
	-31 +5.5 μm	Metco 6051		
	-31 +3.9 μm	Metco 105SFP		
Al ₂ O ₃ 98.0+	-45 +15 μm	Metco 105NS		
Aluminum Silicate (Mullite)			Data Sheet DSMTS-0124	
3Al ₂ O ₃ 2SiO ₂	-45 +5 μm	Metco 6150	Fused & Crushed	▪ Low thermal conductivity and expansion coefficient, high phase stability ▪ Ideal for environmental barrier coatings (EBC) top coats to protect ceramic matrix composites (CMCs) ▪ Service up to 1300 °C (2370 °F)
Aluminum Oxide 3% Titanium Oxide			Data Sheet DSMTS-0006	
Al ₂ O ₃ 3TiO ₂	-90 +45 μm	Amdry 6208	Fused & Crushed	▪ Resists abrasion, sliding wear, friction, oxidation, acids, alkalis ▪ Somewhat tougher than pure alumina ▪ For textile production tooling, butterfly valves, electrical insulation, dielectric applications ▪ Service up to 1100 °C (2010 °F)
	-75 +30 μm	Metco 101B-NS		
	-75 +30 μm	Amdry 187		
	-45 +11 μm	Metco 101NS		
	-45 +11 μm	Metco 6203		
	-45 +5 μm	Amdry 6204		
	-22 +5 μm	Amdry 6200		
	-22 +5 μm	Metco 101SF		
Aluminum Oxide 13% Titanium Oxide			Data Sheet DSMTS-0084	
Al ₂ O ₃ 13TiO ₂	-45 +15 μm	Amdry 6228	Fused, Crushed & Blended	▪ Resists abrasion, sliding wear, oxidation, acids, alkalis ▪ Titania adds toughness but reduces hardness ▪ For hydraulic parts, shaft sleeves, mechanical seals, thread and synthetic fiber production tooling ▪ Metco 6221 has improved DE and more homogeneous coating structure ▪ Service up to 540 °C (1000 °F)
	-40 +5 μm	Amdry 6224		
	-35 +5 μm	Amdry 6220		
	-53 +15 μm	Metco 130	Mechanically Clad	
	-45 +5 μm	Metco 130SF		
	-45 +15 μm	Metco 6221	Agglomerated & Sintered	

Oxide Ceramics

Aluminum Oxide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Aluminum Oxide 40% Titanium Oxide			Data Sheet DSMTS-0083	
Al ₂ O ₃ 40TiO ₂	-45 +5 µm	Amdry 6244	Fused, Crushed & Blended	▪ Resists abrasion, fretting, particle erosion, dilute acids ▪ Good friction characteristics for hard bearing surfaces
	-35 +5 µm	Amdry 6240		
	-45 +15 µm	Amdry 6257	Fused & Crushed	▪ Ground/polished surfaces have low wettability ▪ Lower hardness, but more readily ground than alumina with lower titania content ▪ For pump parts, shaft sleeves, mechanical seals, thread and synthetic fiber production tooling
	-45 +5 µm	Amdry 6254		
	-35 +5 µm	Amdry 6250		
	-45 +5 µm	Metco 131VF	Agglomerated	▪ Service up to 540 °C (1000 °F)

Chromium Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Chromium Oxide (Pure)			Data Sheet DSMTS-0072	
Cr ₂ O ₃ 99.7+	-45 +20 µm	Metco 6445	Sintered & Crushed	- Hard, wear resistant, chemically inert - Metco 6156, Metco 6155, Metco 6416, Metco 6445 and Amdry 6420 are recommended for anilox rolls
	-45 +15 µm	Metco 6155		
	-35 +15 µm	Metco 6156		
	-30 +10 µm	Metco 6416		
Cr ₂ O ₃ 99.5+	-45 +22 µm	Amdry 6420	Specially Treated	Metco 106 and Metco 106F have small amounts of titania, increasing fracture toughness
Cr ₂ O ₃ 99.0+	-15 +5 µm	Amdry 6415		
	-90 +11 µm	Metco 106NS	Sintered & Crushed	Service up to 540 °C (1000 °F)
Cr ₂ O ₃ 95.8+	-53 +5 µm	Metco 106F		
Cr ₂ O ₃ 95.0+	-90 +11 µm	Metco 106		

Chromium Oxide 4% Silicon Oxide 3% Titanium Oxide			Data Sheet DSMTS-0098	
Cr ₂ O ₃ 4SiO ₂ 3TiO ₂	-90 +16 µm	Metco 136CP	Mechanically Clad	- Hard, dense, very wear resistant - Unusually high ceramic toughness - Resists, acids, alkalis, alcohols - For pump components, wear rings, down-hole plungers, textile machinery parts, seals - Service up to 540 °C (1000 °F)
	-63 +5 µm	Metco 136F		
	-45 +10 µm	Amdry 6462	Fused & Crushed	

Chromium Oxide – Titanium Oxide			Data Sheet DSMTS-0071	
Cr ₂ O ₃ 25TiO ₂	-45 +20 µm	Metco 6485	Fused & Crushed	- Excellent abrasion, heat and corrosion resistance - High fracture toughness - For sucker rod couplings, doctor blades, machine tool chip breakers - Service up to 540 °C (1000 °F)
Cr ₂ O ₃ 40TiO ₂	-90 +16 µm	Metco 6483	Blended	

Gadolinium Zirconium Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Gadolinium Zirconium Oxide and Gadolinium Zirconate			Data Sheet DSMTS-0121	
Proprietary	-120 +16 µm	Metco 6042	Agglomerated, Sintered & Plasma Densified	- Advanced thermal barrier material for industrial gas turbine applications - Available only to OEM-approved purchasers of these materials - Service up to 1500 °C (2730 °F)
Proprietary	-140 +16 µm	Metco 6043		
Proprietary	-140 +45 µm	Metco 6041	Agglomerated & Sintered	

Oxide Ceramics

Lanthanum Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Lanthanum Strontium Manganate (LSM)			Data Sheet DSMTS-0024	
(La _{0.8} Sr _{0.2}) _{0.98} MnO ₃ (provided in molar %)	-53 +22 μm	Metco 6801	Agglomerated & Sintered	▪ High purity Perovskite ▪ Used as an evaporation barrier on chromite-based SOFC interconnects and for catalysts and sensors ▪ Service up to 1500 °C (2730 °F)
	-45 +15 μm	Metco 6800		
Lanthanum Strontium Cobalt Ferrite (LSCF)			Data Sheet DSMTS-0118	
La _{0.6} Sr _{0.4} Co _{0.2} Fe _{0.8} O ₃ (provided in molar %)	-45 +15 μm	Metco 6830A	Agglomerated & Sintered	▪ Used for cathodes in SOFCs and oxygen permeable membranes for gas separation
	-25 +5 μm	Metco 6830		
La _{0.78} Sr _{0.2} Co _{0.2} Fe _{0.8} O ₃ (provided in molar %)	-45 +15 μm	Metco 6831A		
	-25 +5 μm	Metco 6831		

Manganese Cobalt Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Manganese Cobalt Oxide (MCO)				Data Sheet DSMTS-0120
Mn _{1.5} Co _{1.5} O ₄ (provided in molar %)	-45 +15 µm	Metco 6820	Agglomerated & Sintered	- Used as an evaporation barrier on chromite-based SOFC interconnects - Cost effective alternative to LSM materials

Titanium Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Titanium Oxide (Pure)			Data Sheet DSMTS-0065	
TiO _x 99+ x = 1.7	-105 +32 μm	Metco 6231A	Agglomerated & Sintered	▪ Resists sliding wear and many corrosive medias; not for acidic or alkaline environments ▪ Lubricious; good toughness; moderate electrical conductivity with no surface static charge ▪ Metco 623XX products: controlled x factor; recommended to produce sputter target manufacture ▪ For sputter target manufacture, decorative coatings, mandrels, oxygen sensors, biomedical implants ▪ Service up to 540 °C (1000 °F)
TiO _x 99+ x = 1.8	-150 +45 μm	Metco 6232B		
	-150 +38 μm	Metco 6233C		
	-30 +10 μm	Metco 6233D		
TiO _x 99+ x = 1.9	-106 +38 μm	Amdry 6510	Fused & Crushed	
	-45 +11 μm	Metco 102		
	-45 +5 μm	Amdry 6505		
Titanium Oxide 45% Chromium Oxide			Data Sheet DSMTS-0064	
TiO ₂ 45Cr ₂ O ₃	-63 +11 μm	Metco 111	Blended	▪ Excellent abrasion, heat and corrosion resistance ▪ Hard with high fracture toughness; low frictional coefficient ▪ For sucker rod couplings, dry cell batter mandrels, cylinder bores; doctor blades, machine tool chip breakers ▪ Service up to 540 °C (1000 °F)

Oxide Ceramics

Ytterbium Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Ytterbium Disilicate				Data Sheet DSMTS-0128
$\text{Yb}_2\text{Si}_2\text{O}_7$	-90 +11 μm	Metco 6157	Agglomerated & Sintered	- Low thermal conductivity and expansion coefficient, excellent phase stability - Ideal for environmental barrier coatings (EBC) top coats to protect ceramic matrix composites (CMCs) - Service up to 1350 °C (2460 °F)

Yttrium Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Yttrium Oxide (Pure)				Data Sheet DSMTS-0122
Y_2O_3 99.95+	-53 +15 μm	Metco 6035A	Agglomerated & Sintered	- Superior dielectric and electrical insulation; highly resistant to plasma and fluoride etching, stable at high temperatures - Metco 6035A: ultra high purity, superior performance - Metco 6035A-1: high purity, excellent performance - Metco 6035 series: for electronics and semiconductor production tooling, linings for graphite molds
Y_2O_3 99.9+	-53 +15 μm	Metco 6035A-1		
Y_2O_3 96.0+	-106 +16 μm	Metco 6015S		
	-106 +16 μm	Metco 6015	Agglomerated	- Metco 6015: linings for sintering beds / sleds, graphite molds / trays - Metco 6015S: better flow than Metco 6015 - Service up to 1650 °C (3000 °F)

Zirconium Oxide

Chemistry	Particle Size	Product	Manufacture	Applications
Calcia-Stabilized Zirconium Oxide			Data Sheet DSMTS-0034	
ZrO ₂ 5CaO	-90 +25 μm	Metco 201B-NS-1	Agglomerated	- Thermal barrier, resists abrasive wear, wetting corrosion from molten metals - For turbine hot section components, diesel pistons, valves and cylinder heads, casting molds and troughs - Service up to 900 °C (1650 °F)
	-75 +30 μm	Metco 201B-NS	Fused & Crushed	
	-53 +11 μm	Metco 201NS		
Ceria-Stabilized Zirconium Oxide			Data Sheet DSMTS-0038	
ZrO ₂ 24CeO ₂ 2.5Y ₂ O ₃	-125 +11 μm	Metco 205NS	Agglomerated & Plasma Densified (HOSP)	- Thermal barrier, excellent shock resistance, low thermal conductivity, resists high temperature corrosion - For turbine hot section components - Service up to 1250 °C (2280 °F)
Magnesia-Stabilized Zirconium Oxide			Data Sheet DSMTS-0037	
ZrO ₂ 24MgO	-90 +11 μm	Metco 210NS-1	Agglomerated & Plasma Densified (HOSP)	- Thermal barrier, low thermal conductivity, high melting point - Resists high temperature erosion, wetting of molten metals - For turbine hot section components, molten metal molds and troughs, forging tooling, etc. - Service up to 900 °C (1650 °F)
	-90 +11 μm	Metco 210	Fused & Crushed	

Oxide Ceramics

Zirconium Oxide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Zirconia Titania Yttria Composite			Data Sheet DSMTS-0033	
ZrO ₂ 18TiO ₂ 10Y ₂ O ₃	-75 +5 µm	Metco 143	Agglomerated	▪ Excellent high temperature scuff and erosion resistance ▪ Resists sulfidation, chlorination and sodium hot corrosion ▪ For hard bearing surfaces on liners, cylinder bores, piston rings and crowns, exhaust valves, turbine blades ▪ Service up to 980 °C (1800 °F)
7.5% Yttria-Stabilized Zirconium Oxide - Agglomerated			Data Sheet DSMTS-0019	
ZrO ₂ 7.5Y ₂ O ₃	-30 +1 µm	Metco 6700	Agglomerated	▪ Thermal barrier for turbine hot section components ▪ Stabilization occurs during spray process ▪ Designed for ChamPro PS-PVD spray process, can produce columnar microstructures ▪ Service up to 1200 °C (2190 °F)
8% Yttria-Stabilized Zirconium Oxide - Agglomerated & Sintered			Data Sheet DSMTS-0047	
ZrO ₂ 8Y ₂ O ₃	-125 +45 µm	Metco 233C	Agglomerated & Sintered	▪ For high porosity thermal barrier turbine applications ▪ Metco 222A: very high purity ▪ Metco 231A: lowest cost, stabilizes during spray processing ▪ Metco 233B: for DVC coatings ▪ Service up to: 1350 °C (2460 °F) (Metco 22XX) 1250 °C (2280 °F) (Metco 23XX)
	-125 +45 µm	Metco 222A		
	-125 +45 µm	Metco 233A		
	-125 +45 µm	Metco 231A		
	-90 +15 µm	Metco 234A		
	-45 +22 µm	Metco 233B		
8% Yttria-Stabilized Zirconium Oxide - HOSP			Data Sheet DSMTS-0001	
ZrO ₂ 8Y ₂ O ₃	-147 +45 µm	Metco 204C-NS Premium	Agglomerated & Plasma Densified (HOSP)	▪ Well known for excellent flow, chemical homogeneity and structural integrity ▪ Best used for standard porosity (4 – 12 vol. %) TBC coatings ▪ Similar products differ by OEM specification approvals ▪ For thermal protection of thermal hot section components ▪ “Premium” products: very high purity with improved sintering resistance at higher temperatures ▪ Metco 204D: excellent purity, cost-effective alternative ▪ Metco 204AF and Metco 204F: for denser coatings
	-147 +45 µm	Metco 204C-NS		
	-125 +11 µm	Metco 204NS-G Premium		
	-125 +11 µm	Metco 204NS-G		
	-125 +11 µm	Amdry 204NS-1		
	-125 +11 µm	Metco 204NS		
	-90 +16 µm	Metco 204D		
	-75 +45 µm	Metco 204B-NS		
	-45 +15 µm	Metco 204AF		
	-45 +15 µm	Metco 204F		
Proprietary	Proprietary	Metco 204NS-AP		▪ Service up to: 1350 °C (2460 °F) (“Premium” products) 1250 °C (2280 °F) (Other products)
		SPM 2000		
		SPM 2000-1		

Oxide Ceramics

Zirconium Oxide

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
8% Yttria-Stabilized Zirconium Oxide - Suspension				Data Sheet DSMTS-0127
ZrO ₂ 8Y ₂ O ₃ / Ethanol	submicron	Metco 6608	Agglomerated & Plasma Densified, Milled and Dispersion Mixed	- Designed for suspension plasma spray as an alternative to EB-PVD - High purity YSZ constituent - Metco 6608: - Premixed with ethanol and dispersant - For prototype coating and development of advanced TBC top coats
ZrO ₂ 8Y ₂ O ₃		Metco 6609	Agglomerated, Plasma Densified & Milled	- Metco 6609: - Preformulated with dispersant for mixing by customer - For production applicaitons - Service up to 1350 °C (2460 °F)
20% Yttria-Stabilized Zirconium Oxide				Data Sheet DSMTS-0035
ZrO ₂ 20Y ₂ O ₃	-90 +16 µm	Metco 202NS	Agglomerated	- Thermal barrier for turbine hot section components - Resists particle erosion for rocket nozzles and missile nose cones - Service up to 1500 °C (2730 °F)
	Proprietary	Metco 6620A	Agglomerated & Plasma Densified	
	Proprietary	Metco 6620C	(HOSP)	
High Yttria-Stabilized Zirconium Oxide				Data Sheet DSMTS-0126
ZrO ₂ 38Y ₂ O ₃	-125 +11 µm	Metco 207	Agglomerated & Plasma Densified (HOSP)	- Thermal barrier for turbine hot section components - Resists CMAS attack - Lower thermal conductivity than 8% YSZ coatings - Improves thermal shock resistance when applied over 8% YSZ coatings - Choose Metco 208 for advanced-structured TBCs - Service up to 1425 °C (2600 °F)
ZrO ₂ 55Y ₂ O ₃	-106 +11 µm	Metco 208		
Zirconia Gadolinia Ytterbia Yttria				Data Sheet DSMTS-0099
ZrO ₂ 9.5Y ₂ O ₃ 5.6Yb ₂ O ₃ 5.2Gd ₂ O ₃	-125 +45 µm	Metco 206A	Agglomerated & Sintered	- Ultra high temperature thermal barrier material - Very low thermal conductivity; improved high temperature sintering resistance - Limited to licensed US government programs - Service up to 1500 °C (2730 °F)

Aluminum Base

Chemistry	Diameters	Product	Form	Applications
Aluminum (Pure)			Data Sheet DSMTS-0003	
Al 99.5%+	1050 Grade: 1.62 mm (14 ga) 2 mm (5/64 in) 2.0 mm (0.079 in) 2.3 mm (11 ga) 2.5 mm (0.098 in) 3.2 mm (1/8 in) 4.0 mm (0.157 in) 4.8 mm (3/16 in)	Metco Aluminum	Solid Wire	Sacrificial coatings for steel structures for atmospheric, saltwater, fresh water immersion environments
Al 99.0%+	1100 Grade: 1.45 mm (15 ga) 1.62 mm (14 ga) 2.3 mm (11 ga) 2.5 mm (0.098 in) 3.2 mm (1/8 in) 4.0 mm (0.157 in) 4.8 mm (3/16 in)			- May be used as an undercoat to organic coatings - Electrical conductance on insulators, capacitors end caps, varistors, etc. - Service up to 538 °C (1000 °F)
Al 99.5%+	1350 Grade: 1.62 mm (14 ga)			
Aluminum Alloys				Data Sheet DSMTS-0004
Al 5Mg	2.5 mm (0.098 in)	Metco AlMg	Solid Wire	- Cathodic and galvanic protection on iron and steel substrates in seawater - Use at temperatures that exceed limits of Zn or Zn/Al - Usable in mildly acidic media and soft water - Service up to 100 °C (210 °F)
Al 6Si	1.62 mm (14 ga) 3.2 mm (1/8 in)	Metco SF Aluminum		- For machine element repair on aircraft cases, flanges, gearbox seals - Repair Mg and Al alloy substrates - Higher Si content produces harder, denser coatings - Service up to 450 °C (840 °F)
	3.2 mm (1/8 in)	Metco SF-NS Aluminum		
Al 12Si	1.62 mm (14 ga)	Metco 8234		
Al 3Ti	2.5 mm (0.098 in)	Metco 8901		- Corrosion resistant in marine environments with good thermal cycling characteristics - For traction coatings on decks, catwalks, etc.

Wires

Copper Base

Chemistry	Diameters	Product	Form	Applications
Copper (Pure) and Copper Alloys				Data Sheet DSMTS-0009
Cu 99.9+	1.62 mm (14 ga) 3.2 mm (1/8 in)	Metco Copper	Solid Wire	▪ Excellent conductivity for electrical applications ▪ Decorative coatings ▪ Service up to 750 °C (1380 °F)
Cu 8Al	1.62 mm (14 ga)	Sprabronze AB		▪ Dense, moderately wear resistant ▪ Machine element restoration and for pump impellers, armature bushings, motor bearings, decorative coatings ▪ Sprabronze AB and AA: more corrosion resistant ▪ Sprabronze S: Lubricious, resists sliding wear ▪ Sprabronze TM: Tobin-type bronze ▪ Service up to 700 °C (1290 °F)
Cu 9Al 1Fe	1.62 mm (14 ga) 3.2 mm (1/8 in)	Sprabronze AA		
Cu 6Sn	1.62 mm (14 ga)	Sprabronze S		
Cu 40Zn 1Fe 1Sn	3.2 mm (1/8 in)	Sprabronze TM		
Cu 37Zn	1.62 mm (14 ga)	Metco Brass		▪ Resists low oxygen, alkaline, caustic solutions ▪ Solderable ▪ Service up to 750 °C (1380 °F)

Iron Base

Chemistry	Diameters	Product	Form	Applications
Carbon Steels				Data Sheet DSMTS-0076
Fe 0.7Mn 0.8C	1.62 mm (14 ga) 3.2 mm (1/8 in)	Sprasteel 80	Solid Wire	▪ Good hardness for restoration and repair of low alloy and carbon steels ▪ For engine block and header castings, bearing surfaces, machine element repair ▪ Sprasteel 80: low shrink, hard, moderately thick coatings ▪ Sprasteel 11: high shrink, softer coating for bearing surfaces ▪ Metco 8230: low to moderate shrink, moderately thick coatings
Fe 1.63Mn 1Si 0.07C	1.62 mm (14 ga)	Sprasteel 11		
Fe 0.8Mn 0.2Si 0.15C	1.62 mm (14 ga)	Metco 8230		
Iron Aluminum Carbon				Data Sheet DSMTS-0069
Fe 5.5Al 2C 0.8Mn	1.62 mm (14 ga)	Metco 8235	Cored Wire	▪ Good traction and anti-skid characteristics, high wear resistance ▪ For walkways, platforms, stairs, traction rollers, etc. ▪ Service up to 354 °C (670 °F)

Iron Base

CONTINUED

Chemistry	Diameters	Product	Form	Applications
Iron Chromium (Stainless Steel)			Data Sheet DSMTS-0032	
Fe 13Cr 0.5Mn 0.5Ni 0.35C 0.25Si	1.62 mm (14 ga) 2.0 mm (0.08 in) 2.3 mm (11 ga) 3.2 mm (1/8 in) 4.8 mm (3/16 in)	Metcoloy 2	Solid Wire	▪ Excellent corrosion and wear resistance ▪ For salvage and restoration of machine elements, pump plungers, impellers, journal surfaces, printing rolls, etc. ▪ Metcoloy 1: high shrink, wear and corrosion protection ▪ Metcoloy 2: low shrink, hard, good wear resistance, relatively thick coatings ▪ Metcoloy 4: resists organic and non-oxidizing organic acids, recommended for paper roll resurfacing ▪ Metcoloy 5: low shrink, moderately thick coatings and internal bores
Fe 17Cr 12Ni 2.5Mo 2Mn 1Si 0.08C	1.62 mm (14 ga) 3.2 mm (1/8 in)	Metcoloy 4		
Fe 18Cr 8Ni 2Mn 0.75Si 0.08C	3.2 mm (1/8 in) 4.8 mm (3/16 in)	Metcoloy 1		
Fe 18Cr 8.5Mn 5Ni 1Si 0.15C	1.62 mm (14 ga) 3.2 mm (1/8 in) 4.8 mm (3/16 in)	Metcoloy 5		
Fe 17Cr 3Ti 1.5Mn 1.3Si	1.62 mm (14 ga)	Metco 8238	Cored Wire	▪ Metco 8238: resists friction and erosion; high bond strength
Iron Chromium (Cr > 20%)			Data Sheet DSMTS-0008	
Fe 25Cr 5Al 0.25C 0.25Si	1.62 mm (14 ga)	Metco 8236	Solid Wire	▪ Excellent corrosion and oxidation resistance combined with high strength ▪ For boiler applications, restoration, paper machinery, textile machinery, hard chromium plating alternatives ▪ Metco 8236: resists high temperature oxidation and nitration
Fe 35Ni 20Cr 2Si	1.62 mm (14 ga)	Metco X10		
Fe 31Ni 27Cr 4Mo 1.75Mn 1.1Cu	1.62 mm (14 ga)	Metco X28		
Fe 28Cr 5C 1Mn	1.62 mm (14 ga)	Metco 8222	Cored Wire	▪ Metco 8295: resists erosion, chemical attack at higher temperatures ▪ Metco 8222 and Metco 8237: superior hardness for hardfacing ▪ Metco X10 and Metco X28: tough, high alloy steels for dimensional buildup
Fe 28Cr 5C 5B 0.6Si 0.3Mn	1.62 mm (14 ga)	Metco 8237		
Fe 29Cr 4B 1.75Si	1.62 mm (14 ga)	Metco 8295		
Iron Chromium Nickel with Hard Phase			Data Sheet DSMTS-0068	
Fe 26WC 13Cr 6TiC 6Ni 2B 1Si	1.62 mm (14 ga)	Metco 8297	Cored Wire	▪ Hard, partially amorphous coatings; resists corrosion, abrasion ▪ For metal-earth and metal-metal sliding wear, industrial fan blades, boiler tubes ▪ Service up to 538 °C (1000 °F)
Iron Molybdenum			Data Sheet DSMTS-0063	
Fe 21Mo 2C 1B	1.62 mm (14 ga)	Metco 8223	Cored Wire	▪ Low cost alternative to pure Mo with higher interparticle cohesion ▪ Low friction, resists wear, scuffing ▪ For piston rings and shafts, synchronizer rings, transmission ring gears ▪ Service up to 340 °C (650 °F)

Wires

Nickel Base

Chemistry	Diameters	Product	Form	Applications
Nickel (Pure)			Data Sheet DSMTS-0040	
Ni 99.0+	1.62 mm (14 ga) 3.2 mm (1/8 in)	Metco Nickel	Solid Wire	- Resists alkaline, freshwater, marine and sulfuric acid - For salvage, restoration and corrosion resistance on nickel-based substrates, petrochemical equipment
Nickel Aluminum			Data Sheet DSMTS-0002	
Ni 5Al	1.62 mm (14 ga)	Metco 8400	Solid Wire	- Exothermic reaction for exceptionally high bond strength - Resists oxidation, particle erosion - For bond coats, restoration of machinable carbon and corrosion-resistant steels - Metco 8400: general purpose bond coat materials; select Metco 8400 to meet turbine OEM specifications - Metco 8447: Mo improves wear resistance - Metco 8405, Metco 405-1, Metco 405NS: denser coatings with better oxidation, high temperature corrosion resistance - Service up to 650 °C (1200 °F)
Ni 5.5Al 5Mo	1.62 mm (14 ga)	Metco 8447	Cored Wire	
Ni 20Al	1.62 mm (14 ga)	Metco 8405		
	3.2 mm (1/8 in)	Metco 405-1		
	3.2 mm (1/8 in)	Metco 405NS		
Nickel Chromium			Data Sheet DSMTS-0052	
Ni 20Cr	1.62 mm (14 ga)	Metco 8450	Solid Wire	High structural integrity, density
Ni 15Cr 16Mo 6Fe 4W 0.5Mn SIMILAR TO HASTELLOY C276	1.62 mm (14 ga)	Metco 8276		
Ni 21Cr 9Mo 4(Nb+Ta) SIMILAR TO INCONEL 625	1.62 mm (14 ga)	Metco 8625		
Ni 43Cr 0.6Ti	1.62 mm (14 ga)	Metco 8500		Resists oxidation at elevated temperatures for bond coats and restoration
Ni 21Cr 14Mo 3W 2.5Fe SIMILAR TO INCONEL 622	1.62 mm (14 ga)	Metco 8622		
Ni 20Fe 19Cr 3Mo 5(Nb+Ta) 1Ti SIMILAR TO INCONEL 718	1.62 mm (14 ga)	Metco 8718		Metco 470 AW, Metco 8276, Metco 8443, Metco 8625: resists oxidation and hot gas corrosion
Ni 22Fe 16Cr	3.2 mm (1/8 in)	Metcoloy 33		
Ni 25Fe 15Cr	1.62 mm (14 ga)	Metco 470 AW		
Ni 18Cr 6Al 2Mn	1.62 mm (14 ga)	Metco 8443	Cored Wire	Metco 470 AW, Metcoloy 33: general purpose machine element restoration
Ni 50Cr	1.62 mm (14 ga)	Metco 8452		
Nickel Copper (Monel)			Data Sheet DSMTS-0041	
Ni 30Cu	1.62 mm (14 ga) 3.2 mm (1/8 in)	Metco NiCu	Solid Wire	- Monel-type composition - Highly resists seawater, atmospheric corrosion, various acids and alkaline environments - Service up to 600 °C (1100 °F)

Wires

Nickel Base

CONTINUED

Chemistry	Diameters	Product	Form	Applications
Nickel Titanium				Data Sheet DSMTS-0039
Ni 3Ti	1.62 mm (14 ga)	Metco 8448	Solid Wire	- Exothermic reaction for exceptionally high bond strength - Resists corrosion and alkaline environments - Excellent bond coat - Service up to 800 °C (1470 °F)

Silver Base

Chemistry	Diameters	Product	Form	Applications
Silver (Pure) and Silver Alloys				Data Sheet DSMTS-0082
Ag 99.99+	2.3 mm (11 ga)	Metco Silver	Solid Wire	- Metco Silver for electrical contacts and decorative coatings - Metco Silverloy and Silvaloy for soft, turbine compressor abrasables or electrical contacts
Ag 38Cu 32Zn	1.62 mm (14 ga) 2.3 mm (11 ga) 3.2 mm (1/8 in)	Metco Silverloy		
	3.2 mm (1/8 in)	Silvaloy		

Tin Base

Chemistry	Diameters	Product	Form	Applications
Tin (Pure) and Tin Alloys				Data Sheet DSMTS-0075
Sn 99.8+	3.2 mm (1/8 in)	Metco Tin	Solid Wire	- Metco Tin: resists solvents for of glass lined tanks; solderable for electrical connections; EMI/RFI shielding - Sprababbitt A: dense, babbitt material suitable for high-speed and heavy-duty bearing surfaces
Sn 7.5Sb 3.5Cu	1.62 mm (14 ga) 2.5 mm (0.098 in) 3.2 mm (1/8 in) 4.76 mm (3/16 in)	Sprababbitt A		

Zinc Base

Chemistry	Diameters	Product	Form	Applications
Zinc (Pure) and Zinc Alloys				Data Sheet DSMTS-0010
Zn 99.9+	1.45 mm (15 ga) 1.62 mm (14 ga) 2.0 mm (0.079 in) 2.3 mm (11 ga) 2.5 mm (0.098 in) 3.2 mm (1/8 in) 4.76 mm (3/16 in)	Metco Zinc	Solid Wire	- Galvanically protects iron and steel in atmospheric and immersed freshwater and saltwater - For tanks, bridges, towers, roadway structures, marine and offshore structures
Zn 15Al	1.62 mm (14 ga) 2.0 mm (0.079 in) 2.5 mm (0.098 in) 3.0 mm (0.118 in) 3.2 mm (1/8 in)	Metco ZnAl		

Auxiliary Supplies

Sealers

Form	Service Temperature	Product	VOC	Applications
Sealers			Data Sheet DSMTS-0049	
Used to seal the porosity in thermal spray coatings to form a protective barrier to gases and liquids. Recommended for porous coatings, such as ceramics used in liquid or atmospheric chemical environments and metallic coatings with higher nobility than the substrate.				
Phenolic Liquid	up to 205 °C (400 °F)	Metcoseal AP	High	▪ Resists many solvents, acidic and atmospheric environments
Liquid Solvent	---	Metcoseal APT Thinner	High	▪ Thinner for Metcoseal AP
Epoxy Liquid (2 component kit)	up to 150 °C (300 °F)	Metcoseal ERS	None	▪ Resists many solvents, basic and atmospheric environments
Silicone Resin with Aluminum Flake	up to 480 °C (900 °F)	Metcoseal SA	High	▪ Protection for aluminum coatings in atmospheric environments
Urethane Liquid	up to 205 °C (400 °F)	Metcoseal URS	Low	▪ Resists many solvents, acidic basic and atmospheric environments
Petroleum-based Wax Stick	up to 82 °C (180 °F)	Metco 185 Sealer	None	▪ Resists most acidic, basic and atmospheric environments

Masking Compounds

Form	Service Temperature	Product	VOC	Applications
Liquid Masking Compounds			Data Sheet DSMTS-0053	
Water-based Liquid	up to 315 °C (600 °F)	Metco Anti-Bond	None	▪ For all thermal spray processes except HVOF or ChamPro™
Water-based Liquid	---	Metco Masking Compound	None	▪ For all thermal spray processes except HVOF, electric arc wire and ChamPro™

Masking Tapes

Form	Tape Width	Product	Applications
Masking Tapes			Data Sheet DSMTS-0036
Fiberglass fabric, double-faced adhesive	25.4 mm (1.0 in) 38.1 mm (1.5 in)	Metco Flame Spray Masking Tape	▪ For all thermal spray processes except HVOF or ChamPro™
Silicon rubber / fiberglass fabric, double-faced silicon adhesive	25.4 mm (1.0 in)	Metco HP Flame Spray Masking Tape	▪ For all thermal spray processes except ChamPro™
Silicon rubber / fiberglass fabric, double-faced adhesive	12.7 mm (0.5 in)	Amdry T-3312	▪ For all thermal spray processes except HVOF or ChamPro™
	25.4 mm (1.0 in)	Amdry T-3325	
	50.8 mm (2.0 in)	Amdry T-3350	

Auxiliary Supplies

Cleaning (Blast) Media

Chemistry	Particle (Grit)* Size	Product	Manufacture	Applications
Aluminum Oxide Grit			Data Sheet DSMTS-0028	
Al ₂ O ₃ 3.5TiO ₂	-2.36 +1.00 mm (14)	Metcolite 14	Fused & Crushed	▪ Relatively coarse, sharp, clean and tough abrasive media ▪ To clean and profile substrate prior to thermal spray coating application ▪ Select grit size appropriately for the application and surface profile desired
	-2.00 +0.60 mm (20)	Metcolite C		
	-1.41 +0.42 mm (24)	Metcolite F		
	-0.85 +0.35 mm (36)	Metcolite F36		
	-0.60 +0.17 mm (54)	Metcolite VF		

* Grit size per U.S. Commercial Standard CS 271-65

Product Index

Product	Page	Product	Page	Product	Page
Amdry 187	30	Amdry 6200	30	Durabrade 2198	11
Amdry 204NS-1	34	Amdry 6204	30	Durabrade 2198A	11
Amdry 313X	17	Amdry 6208	30	Durabrade 2211ZB	10
Amdry 355	15	Amdry 6220	30	Durabrade 2221	10
Amdry 365-1	13	Amdry 6224	30	Durabrade 2222	10
Amdry 365-2	13	Amdry 6228	30	Durabrade 2223	10
Amdry 365-4	13	Amdry 6240	31	Durabrade 2224	10
Amdry 367	23	Amdry 6244	31	Durabrade 2231	10
Amdry 386	13	Amdry 6250	31	Durabrade 2241	10
Amdry 386-2	13	Amdry 6254	31	Durabrade 2311	10
Amdry 386-2.5	13	Amdry 6257	31	Durabrade 2313	10
Amdry 386-3	13	Amdry 6415	31	Metco 12C	21
Amdry 386-4	13	Amdry 6420	31	Metco 14E	21
Amdry 386-5	13	Amdry 6462	31	Metco 15E	21
Amdry 500C	16	Amdry 6505	32	Metco 15F	21
Amdry 500F	16	Amdry 6510	32	Metco 16C-NS	21
Amdry 510	18	Amdry 7050	21	Metco 18C	21
Amdry 625	18	Amdry 9621	13	Metco 31C-NS	21
Amdry 718	18	Amdry 9624	13	Metco 32C	21
Amdry 718 Cl.B	18	Amdry 9625	13	Metco 34F	21
Amdry 920	12	Amdry 9700	12	Metco 34FP	21
Amdry 956	17	Amdry 9800B	14	Metco 36C	21
Amdry 958	15	Amdry 9831	25	Metco 41A	16
Amdry 959	17	Amdry 9951	12	Metco 41C	16
Amdry 960	18	Amdry 9954	12	Metco 42C	16
Amdry 962	13	Amdry MM509	15	Metco 43C-NS	18
Amdry 963	13	Amdry T-3312	41	Metco 43F-NS	18
Amdry 964	13	Amdry T-3325	41	Metco 43VF-NS	18
Amdry 995C	12	Amdry T-3350	41	Metco 45C-NS	15
Amdry 997	13	Amdry X40	15	Metco 45VF-NS	15
Amdry 1371	17	Amdry XPT-268	9	Metco 51F-NS	16
Amdry 1718	18	Diamalloy 1002	16	Metco 51NS	16
Amdry 2000	9	Diamalloy 1003	16	Metco 52C-NS	15
Amdry 2010	9	Diamalloy 1003-1	16	Metco 54NS	15
Amdry 2231A	14	Diamalloy 1004	16	Metco 54NS-1	15
Amdry 2231B	14	Diamalloy 1005	18	Metco 55	16
Amdry 2231C	14	Diamalloy 1005A	18	Metco 56C-NS	17
Amdry 2231D	14	Diamalloy 1006	18	Metco 56VC	17
Amdry 2453A	14	Diamalloy 1007	16	Metco 57NS	16
Amdry 2464A	14	Diamalloy 1008	16	Metco 58NS	16
Amdry 2464B	14	Diamalloy 1009	16	Metco 63NS	17
Amdry 2464C	14	Diamalloy 1010	16	Metco 66F-NS	15
Amdry 2464D	14	Diamalloy 1013	16	Metco 68F-NS-1	15
Amdry 2464E	14	Diamalloy 2001	21	Metco 70C-NS	23
Amdry 2464F	14	Diamalloy 2002	21	Metco 70F-NS	23
Amdry 2464G	14	Diamalloy 2003	24	Metco 71NS	24
Amdry 2479A	14	Diamalloy 2004	24	Metco 71VF-NS	24
Amdry 2479B	14	Diamalloy 2005NS	25	Metco 71VF-NS-1	24
Amdry 2479C	14	Diamalloy 2005NS-1	25	Metco 72F-NS	24
Amdry 2483A	14	Diamalloy 3001	15	Metco 73F-NS-1	25
Amdry 2483B	14	Diamalloy 3002NS	15	Metco 73F-NS-1 (-45)	25
Amdry 2483C	14	Diamalloy 3004	23	Metco 73F-NS-2	25
Amdry 4522A	14	Diamalloy 3007	23	Metco 73SF-NS	25
Amdry 4522B	14	Diamalloy 4004NS	18	Metco 76F-NS	25
Amdry 4522C	14	Diamalloy 4006	19	Metco 81NS	23
Amdry 4522D	14	Diamalloy 4008NS	17	Metco 81VF-NS	23
Amdry 4535	18	Diamalloy 4060NS	15	Metco 82VF-NS	23
Amdry 5260	24	Diamalloy 4276	19	Metco 101B-NS	30
Amdry 5670	25	Diamalloy 4454	12	Metco 101NS	30
Amdry 5843	27	Diamalloy 4700	12	Metco 101SF	30
Amdry 6060	30	Durabrade 2192	11	Metco 102	32
Amdry 6062	30	Durabrade 2197	11	Metco 105NS	30

Product Index

Product	Page	Product	Page	Product	Page
Metco 105SFP	30	Metco 439NS-2	22	Metco 4811	19
Metco 106	31	Metco 441NS-1	29	Metco 5143	25
Metco 106F	31	Metco 442	18	Metco 5163	27
Metco 106NS	31	Metco 443NS	18	Metco 5164	27
Metco 111	32	Metco 444	18	Metco 5165	27
Metco 130	30	Metco 445	16	Metco 5241	24
Metco 130SF	30	Metco 447NS	19	Metco 5546NS	24
Metco 131VF	31	Metco 450NS	17	Metco 5640NS	18
Metco 136CP	31	Metco 450P	17	Metco 5803	26
Metco 136F	31	Metco 452	17	Metco 5847	27
Metco 143	34	Metco 453	17	Metco 5847-45	27
Metco 185 Sealer	41	Metco 461NS	13	Metco 6015	33
Metco 201B-NS	33	Metco 470 AW	39	Metco 6015S	33
Metco 201B-NS-1	33	Metco 480NS	17	Metco 6035A	33
Metco 201NS	33	Metco 600NS	10	Metco 6035A-1	33
Metco 202NS	35	Metco 600NS-1	10	Metco 6041	31
Metco 204AF	34	Metco 601NS	9	Metco 6042	31
Metco 204B-NS	34	Metco 604NS	9	Metco 6043	31
Metco 204C-NS	34	Metco 605NS	9	Metco 6051	30
Metco 204C-NS Premium	34	Metco 610NS	9	Metco 6103	30
Metco 204D	34	Metco 1123	22	Metco 6150	30
Metco 204F	34	Metco 2042	9	Metco 6155	31
Metco 204NS	34	Metco 2043	9	Metco 6156	31
Metco 204NS-AP	34	Metco 2101ZB	18	Metco 6157	33
Metco 204NS-G	34	Metco 2395	11	Metco 6203	30
Metco 204NS-G Premium	34	Metco 2460NS	11	Metco 6221	30
Metco 205NS	33	Metco 4010A	20	Metco 6231A	32
Metco 206A	35	Metco 4010B	20	Metco 6232B	32
Metco 207	35	Metco 4010C	20	Metco 6233C	32
Metco 208	35	Metco 4010D	20	Metco 6233D	32
Metco 210	33	Metco 4010E	20	Metco 6416	31
Metco 210NS-1	33	Metco 4012A	20	Metco 6445	31
Metco 213	11	Metco 4013A	20	Metco 6483	31
Metco 222A	34	Metco 4016A	20	Metco 6485	31
Metco 231A	34	Metco 4016B	20	Metco 6608	35
Metco 233A	34	Metco 4023B	20	Metco 6609	35
Metco 233B	34	Metco 4024B	20	Metco 6620A	35
Metco 233C	34	Metco 4027A	20	Metco 6620C	35
Metco 234A	34	Metco 4028A	20	Metco 6700	34
Metco 301C-NS	10	Metco 4030A	20	Metco 6800	32
Metco 301NS	10	Metco 4030B	20	Metco 6801	32
Metco 303NS-1	29	Metco 4030C	20	Metco 6820	32
Metco 307NS	10	Metco 4031A	20	Metco 6830	32
Metco 307NS-2	10	Metco 4031B	20	Metco 6830A	32
Metco 307NS-3	10	Metco 4031C	20	Metco 6831	32
Metco 308NS	10	Metco 4032A	20	Metco 6831A	32
Metco 308NS-1	10	Metco 4033A	20	Metco 7010	21
Metco 308NS-3	10	Metco 4033C	20	Metco 8222	38
Metco 309NS-3	10	Metco 4063	17	Metco 8223	38
Metco 310NS	9	Metco 4195	14	Metco 8230	37
Metco 311NS	9	Metco 4196A	14	Metco 8234	36
Metco 312NS	10	Metco 4196B	14	Metco 8235	37
Metco 313NS	9	Metco 4196C	14	Metco 8236	38
Metco 314NS	10	Metco 4198	14	Metco 8237	38
Metco 320NS	9	Metco 4199	14	Metco 8238	38
Metco 350NS	16	Metco 4200	14	Metco 8276	39
Metco 404NS	18	Metco 4451	12	Metco 8295	38
Metco 405-1	39	Metco 4516	14	Metco 8297	38
Metco 405NS	39	Metco 4518D	14	Metco 8400	39
Metco 410NS	29	Metco 4518E	14	Metco 8405	39
Metco 430NS	22	Metco 4800	15	Metco 8443	39
Metco 439NS	22	Metco 4810	19	Metco 8447	39

Product Index

Product	Page	Product	Page	Product	Page
Metco 8448	40	WOKA 3101	25	WOKA 3652 AMS	27
Metco 8450	39	WOKA 3102	25	WOKA 3652 FC	27
Metco 8452	39	WOKA 3103	25	WOKA 3653	27
Metco 8500	39	WOKA 3104	25	WOKA 3653 FC	27
Metco 8622	39	WOKA 3105	25	WOKA 3654	27
Metco 8625	39	WOKA 3106	25	WOKA 3654 FC	27
Metco 8718	39	WOKA 3108	25	WOKA 3654 FC-1	27
Metco 8901	36	WOKA 3110 FC	25	WOKA 3655	27
Metco AlMg	36	WOKA 3111 FC	25	WOKA 3657	27
Metco Aluminum	36	WOKA 3118	25	WOKA 3660 FC	27
Metco Anti-Bond	41	WOKA 3201	25	WOKA 3661 FC	27
Metco Brass	37	WOKA 3202	25	WOKA 3665	27
Metco Copper	37	WOKA 3203	25	WOKA 3701	28
Metco Flame Spray Masking Tape	41	WOKA 3204	25	WOKA 3702	28
Metco HP Flame Spray Masking Tape	41	WOKA 3205	25	WOKA 3702-1	28
Metco Masking Compound	41	WOKA 3206	25	WOKA 3703	28
Metco Nickel	39	WOKA 3207	25	WOKA 3707	28
Metco NiCu	39	WOKA 3208	25	WOKA 3903	27
Metco SF Aluminum	36	WOKA 3223	25	WOKA 7101	23
Metco SF-NS Aluminum	36	WOKA 3301	26	WOKA 7102	23
Metco Silver	40	WOKA 3302	26	WOKA 7103	23
Metco Silverloy	40	WOKA 3303	26	WOKA 7104	23
Metco Tin	40	WOKA 3304	26	WOKA 7105	23
Metco X10	38	WOKA 3305	26	WOKA 7107	23
Metco X28	38	WOKA 3307	26	WOKA 7201	23
Metco Zinc	40	WOKA 3309	26	WOKA 7202	23
Metco ZnAl	40	WOKA 3332	26	WOKA 7203	23
Metcolite 14	42	WOKA 3401	26	WOKA 7204	23
Metcolite C	42	WOKA 3402	26	WOKA 7205	23
Metcolite F	42	WOKA 3403	26	WOKA 7207	23
Metcolite F36	42	WOKA 3404	26	WOKA 7210	23
Metcolite VF	42	WOKA 3406	26	WOKA 7215	23
Metcoloy 1	38	WOKA 3408	26	WOKA 7218	23
Metcoloy 2	38	WOKA 3501	26	WOKA 7219	23
Metcoloy 4	38	WOKA 3502	26	WOKA 7301	24
Metcoloy 5	38	WOKA 3503	26	WOKA 7302	24
Metcoloy 33	39	WOKA 3505	26	WOKA 7303	24
Metcoseal AP	41	WOKA 3506	26	WOKA 7304	24
Metcoseal APT Thinner	41	WOKA 3534	26	WOKA 7305	24
Metcoseal ERS	41	WOKA 3552	28	WOKA 7307	24
Metcoseal SA	41	WOKA 3601	28	WOKA 7310	24
Metcoseal URS	41	WOKA 3602	28	WOKA 7502	24
Silvaloy	40	WOKA 3603	28	WOKA 7503	24
SPM 2000	34	WOKA 3604	28	WOKA 7504	24
SPM 2000-1	34	WOKA 3606	28	WOKA 7505	24
SPM4-2667	13	WOKA 3607	28	WOKA 7507	24
Sprababbitt A	40	WOKA 3610	28	WOKA 7701	21
Sprabronze AA	37	WOKA 3619	28	WOKA 7702	21
Sprabronze AB	37	WOKA 3622	28	WOKA 7703	21
Sprabronze S	37	WOKA 3632	28	WOKA 50454	21
Sprabronze TM	37	WOKA 3644	28	WOKA 53141	21
Sprasteel 11	37	WOKA 3651	27	WOKA 53194	21
Sprasteel 80	37	WOKA 3652	27		

Customer Specifications

Specification	Product	Page	Specification	Product	Page
Allied Power Group			Avio (CONT'D)		
POW-001	Metco 233B	34	4800M/17	Metco 430NS	22
Alstom			4800M/23	Metco 601NS	9
HMHD 657095	Diamalloy 3004	23	4800M/25	Metco 68F-NS-1	15
HMHD 658040	Metco 204NS-AP	34	4800M/28	Metco 307NS-3	10
HMHD 658042 (except TiO 0.1%)	Metco 204NS-AP	34	4800M/30	Amdry 313X	17
HMHD 658157	Metco 233C	34	4800M/30	Metco 63NS	17
HMHT 601770	Metco 233C	34	4800M/34	Metco 604NS	9
HTCT 601844	Metco 2043	9	4800M/38	Metco 204B-NS	34
American Welding Society (AWS)			4800M/40	Metco 204NS	34
A8.5 BAg-20	Silvaloy	40	4800M/42	Amdry 365-2	13
C2.25/C2.25M W-AL-4047	Metco SF Aluminum	36	Boeing		
C2.25/C2.25M W-AL-1100	Metco Aluminum	36	BMS 10-67, Type I	Diamalloy 2005NS	25
C2.25/C2.25M W-CuAl	Sprabronze AA	37	BMS 10-67, Type I	Metco 71VF-NS	24
C2.25/C2.25M W-FeCrNi-9	Metcoloy 2	38	BMS 10-67, Type II	Metco 51F-NS	16
C2.25/C2.25M W-FeCrNi-3	Metcoloy 5	38	BMS 10-67, Type III	Metco 101NS	30
C2.25/C2.25M W-Ni-3	Metco Nickel	39	BMS 10-67, Type VI	Metco 43C-NS	18
C2.25/C2.25M W-Ni-Al-2	Metco 405NS	39	BMS 10-67, Type VII	Metco 54NS	15
C2.25/C2.25M W-Sn	Metco Tin	40	BMS 10-67, Type XIV	Metco 58NS	16
C2.25/C2.25M WSnSbCu-1	Sprababbitt A	40	BMS 10-67, Type XVII	Metco 5847	27
C2.25/C2.25M W-Zn-1	Metco Zinc	40	BMS 10-67, Type XVII	Metco 5847-45	27
ASTM International			D210-12051-1	Metco 605NS	9
B-211	Metco Aluminum	36	DMS 2049, Type I	Metco 51F-NS	16
B348 (chemistry only)	Metco 4012A	20	DMS 2049, Type II	Metco 71VF-NS	24
B348 (chemistry only)	Metco 4013A	20	DSM QPL 2049	Metco 51F-NS	16
B348 (chemistry only)	Metco 4023B	20	Bombardier		
B348 (chemistry only)	Metco 4024B	20	BAMS 561-001 Type 1	WOKA 3223	25
B348 (chemistry only)	Metco 4027A	20	BAMS 561-001 Type 2	WOKA 3653	27
F136 (chemistry only)	Metco 4032A	20	Cameron		
F136 (chemistry only)	Metco 4033A	20	IN 9721	WOKA 3652 AMS	27
F136 (chemistry only)	Metco 4033C	20	Canada Pratt & Whitney		
F1580	Metco 4010A	20	CPW 210	Metco 105NS	30
F1580	Metco 4010B	20	CPW 212	Metco 201B-NS	33
F1580	Metco 4010C	20	CPW 213	Metco 63NS	17
F1580	Metco 4010D	20	CPW 213	Amdry 313X	17
F1580	Metco 4010E	20	CPW 215	Metco 43C-NS	18
F1580	Metco 4016A	20	CPW 217	Metco 43F-NS	18
F1580	Metco 4016B	20	CPW 218	Metco 45C-NS	15
F1580	Metco 4028A	20	CPW 220	Metco 54NS	15
F1580	Metco 4030A	20	CPW 235	Metco 52C-NS	15
F1580	Metco 4030B	20	CPW 236	Metco 45VF-NS	15
F1580	Metco 4030C	20	CPW 247	Amdry 956	17
F1580	Metco 4031A	20	CPW 247	Metco 450NS	17
F1580	Metco 4031B	20	CPW 281	Metco 101B-NS	30
F1580	Metco 4031C	20	CPW 369	Metco 443NS	18
Aviation Product Support			CPW 387	Amdry 365-2	13
PM 0021	Metco 54NS-1	15	CPW 400	Amdry 367	23
Avio			CPW 490	Metco 480NS	17
4800M/3	Metco 450NS	17	CPW 517	Amdry 2010	9
4800M/4	Metco 101B-NS	30	CPW 517	Metco 601NS	9
4800M/6	Metco 81NS	23	CPW 528-3	Diamalloy 4700	12
4800M/9	Metco 308NS-3	10	CPW 555	Metco 313NS	9
4800M/10	Metco 307NS-2	10	CPW 617	Metco 51F-NS	16
4800M/11	Metco 301C-NS	10	CPW 673	Amdry 204NS-1	34
4800M/12	Metco 443NS	18	CPW 673	Metco 204NS	34
4800M/15	Metco 73F-NS-1	25	CPW 928	Metco 601NS	9
4800M/15	Metco 73F-NS-1 (-45)	25	MS 1088	Amdry 718	18
			MS 2025	Amdry 1718	18

Customer Specifications

Specification	Product	Page	Specification	Product	Page
CFM International			Chromalloy (CONT'D)		
CP 6002.....	Metco 45VF-NS.....	15	C-81.....	Amdry 2464F.....	14
CP 6003.....	Amdry 500C.....	16	CP 6029.....	Metco 45C-NS.....	15
CP 6003.....	Metco 58NS.....	16	RCC No. 1.....	Metco 404NS.....	18
CP 6004.....	Metco 73F-NS-1.....	25	RCC No. 3.....	Metco 430NS.....	22
CP 6004.....	Metco 73F-NS-1 (-45).....	25	RCC No. 4.....	Metco 430NS.....	22
CP 6005.....	Metco 404NS.....	18	Cincinnati Thermal Spray		
CP 6006.....	Amdry 960.....	18	CTS 1333.....	Metco Aluminum.....	36
CP 6006.....	Metco 443NS.....	18	Dana Perfect Circle		
CP 6007.....	Amdry 956.....	17	PC 110-265.....	Metco 447NS.....	19
CP 6007.....	Metco 450NS.....	17	de Havilland		
CP 6007.....	Metco 480NS.....	17	DHMS C4.19 (except 3.3.1).....	Diamalloy 2005NS.....	25
CP 6008.....	Metco 72F-NS.....	24	DHMS C4.19.....	Metco 5143.....	25
CP 6009.....	Metco 101B-NS.....	30	Eurocopter		
CP 6011.....	Metco 51F-NS.....	16	DHS 122-103-40.....	Amdry 6420.....	31
CP 6019.....	Amdry 313X.....	17	GE		
CP 6019.....	Metco 63NS.....	17	10042376.....	Metco 204NS.....	34
CP 6020.....	Metco 66F-NS.....	15	A50A557.....	Metco 204NS-G.....	34
CP 6021 (by work order only).....	Metco 68F-NS-1.....	15	A50A558.....	Metco 204C-NS.....	34
CP 6023.....	Amdry 962.....	13	A50A565.....	Metco 101B-NS.....	30
CP 6025.....	Amdry 718 Cl.B.....	18	A50A565, Cl B.....	Metco 101NS.....	30
CP 6028.....	Metco 54NS-1.....	15	A50AG1.....	SPM 2000.....	34
CP 6030.....	Metco 101NS.....	30	A50AG1, Cl A.....	SPM 2000-1.....	34
CP 6031.....	Metco 72F-NS.....	24	A50TF87, Cl A.....	Metco 101NS.....	30
CP 6032.....	Amdry 1718.....	18	A50TF87, Cl B.....	Amdry 187.....	30
CP 6035.....	Diamalloy 2005NS.....	25	A50TF87, Cl B.....	Metco 101B-NS.....	30
CP 6035.....	Metco 73F-NS-1.....	25	A50TF87, Cl C.....	Metco 101SF.....	30
CP 6041.....	Amdry 958.....	15	A50TF204, Cl A.....	Metco 202NS.....	35
Chemtronics			A50TF204, Cl B.....	Metco 204B-NS.....	34
OPS Man. 5.4.3.....	Diamalloy 2005NS.....	25	A50TF278, Cl A.....	Metco 204C-NS.....	34
OPS Man. 5.4.3.....	Metco 73F-NS-1 (-45).....	25	A50TF278, Cl B.....	SPM 2000.....	34
Chromalloy			A50TF278, Cl B.....	SPM 2000-1.....	34
B-88.....	Amdry MM509.....	15	A50TF278, Cl B, 10042376.....	Metco 204NS.....	34
BZ-003 Type 1.....	Metco 63NS.....	17	A50TF278, Cl B, F50TF50, Cl B.....	Metco 204NS-G.....	34
BZ-003, Type 3.....	Metco 404NS.....	18	A50TF278, Cl B.....	Amdry 204NS-1.....	34
BZ-003 Type 4.....	Metco 443NS.....	18	A50TF278, Cl C.....	Metco 204NS-G.....	34
BZ-003 Type 25.....	Amdry X40.....	15	A50TF278, Cl C.....	Metco 234A.....	34
BZ-003 Type 31.....	Metco 8443.....	39	A50TF278, Cl D.....	Metco 204NS.....	34
BZ-003 Type 34.....	Metco 601NS.....	9	A50TF278, Cl D.....	SPM 2000.....	34
BZ-003 Type 37.....	Metco 81VF-NS.....	23	A50TF278, Cl E.....	Metco 207.....	35
BZ-003 Type 39.....	Amdry 956.....	17	A50TF278, Cl F.....	Metco 208.....	35
BZ-003 Type 39.....	Metco 450NS.....	17	A8B35A1.....	Metcoseal AP.....	41
BZ-003 Type 40.....	Amdry 964.....	13	A8B35A1.....	Metcoseal APT Thinner.....	41
BZ-003 Type 42.....	Metco 73F-NS-1.....	25	A8Y5.....	Metco 605NS.....	9
BZ-003 Type 42.....	Metco 73F-NS-1 (-45).....	25	A17B111A1.....	Metco 600NS.....	10
BZ-003 Type 45.....	Metco 444.....	18	B20A4.....	Silvaloy.....	40
BZ-003 Type 46.....	Diamalloy 2004.....	24	B21B22A.....	Metco Aluminum.....	36
BZ-003 Type 48.....	Metco 52C-NS.....	15	B50A845, Cl B.....	Diamalloy 3007.....	23
BZ-003 Type 51.....	Metco 202NS.....	35	B50A888.....	Metco 410NS.....	29
BZ-003 Type 52.....	Amdry 204NS-1.....	34	B50A890.....	Amdry 960.....	18
BZ-003 Type 52.....	Metco 204NS.....	34	B50A890.....	Metco 443NS.....	18
BZ-003 Type 53.....	Amdry 962.....	13	B50A891.....	Metco 450NS.....	17
BZ-003 Type 56.....	Amdry 1371.....	17	B50A892.....	Amdry 962.....	13
BZ-003 Type 57.....	Metco 447NS.....	19	B50A893.....	Metco 81VF-NS.....	23
C-68.....	Metco 600NS.....	10	B50A917.....	Amdry 1718.....	18
C-72.....	Metco 404NS.....	18	B50A939A.....	Metco 4800.....	15
C-76.....	Amdry 386.....	13	B50A988, Cl B.....	Amdry MM509.....	15
C-77.....	SPM4-2667.....	13			
C-80.....	Amdry 2464A.....	14			
C-80.....	Amdry 2464G.....	14			

Customer Specifications

Specification	Product	Page	Specification	Product	Page
GE (CONT'D)			GE (CONT'D)		
B50AG5, CI B.	Metco 4195	14	B50TF222, CI A & C.	Amdry 2010	9
B50AG6, CI A.	Metco 4200	14	B50TF232, CI A	Durabrade 2311	10
B50AG12, CI A.	Metco 4198	14	B50TF232, CI A	Metco 312NS	10
B50AG12, CI C	Metco 4199	14	MPP 4160-98327	Metco 4200	14
B50AG16, CI B.	Metco 4516	14	P6-TE957	Metco 404NS	18
B50AG16, CI A (except Sec. 4)	Amdry 9621	13	Part # 372A4430P001	Amdry MM509	15
B50AG29, CI D.	Metco 4518D	14	Task 70-49-39-340-038 C07-043	Metco 8443	39
B50AG29, CI E.	Metco 4518E	14	Task 70-49-39 C07-042	Metco 8400	39
B50TF13, CI A & B.	Metco 2101ZB	18	GKN Aerospace		
B50TF27, CI A	Metco 72F-NS	24	PM 819-01	Metco 71VF-NS	24
B50TF27, CI A & B.	Diamalloy 2004	24	PM 819-02	Metco 71NS	24
B50TF28, CI A	Metco 430NS	22	PM 819-05	Metco 81VF-NS	23
B50TF30, CI A	Metco 439NS	22	PM 819-07	Metco 81NS	23
B50TF33, CI A	Metco 404NS	18	PM 819-08	Metco 405NS	39
B50TF40, CI A	Metco 43C-NS	18	PM 819-10	Metco Anti-Bond	41
B50TF40, CI A	Metco 5640NS	18	PM 819-11	Metco 101NS	30
B50TF40, CI B	Metco 43F-NS	18	PM 819-12	Metco 101B-NS	30
B50TF42, CI A	Metco 57NS	16	PM 819-13	Amdry 313X	17
B50TF52, CI B	Durabrade 2221	10	PM 819-13	Metco 63NS	17
B50TF52, CI B	Metco 307NS-3	10	PM 819-15	Metco 68F-NS-1	15
B50TF53, CI B	Durabrade 2241	10	PM 819-16	Metco 45VF-NS	15
B50TF53, CI B	Metco 308NS-3	10	PM 819-18	Metco 45C-NS	15
B50TF56 (chemistry only, TAO 1.2%)	Metco 8400	39	PM 819-20	Metco 204NS	34
B50TF56, CI A	Amdry 956	17	PM 819-21	Metco 404NS	18
B50TF56, CI A	Metco 450NS	17	PM 819-23	Metco 54NS-1	15
B50TF56, CI B	Metco 480NS	17	PM 819-24	Metco 447NS	19
B50TF56, CI C	Diamalloy 4008NS	17	PM 819-25	Metco 72F-NS	24
B50TF57, CI A	Metco 54NS-1	15	PM 819-26	Metco 201NS	33
B50TF64, CI A	Metco 410NS	29	PM 819-30	Metco 601NS	9
B50TF69, CI A	Metco 405NS	39	PM 819-31	Metco 410NS	29
B50TF72, CI A	Amdry 500C	16	PM 819-34	Metco 308NS-3	10
B50TF72, CI A	Metco 58NS	16	PM 819-35	Metco 52C-NS	15
B50TF72, CI B	Amdry 500F	16	PM 819-36	Metco 430NS	22
B50TF92, CI A	Metco 52C-NS	15	PM 819-37	Amdry 956	17
B50TF119	Metco 8443	39	PM 819-41	Metco 307NS	10
B50TF119, CI A	Amdry 960	18	PM 819-42	Metco 57NS	16
B50TF119, CI A	Metco 443NS	18	PM 819-44	Amdry 962	13
B50TF137, CI A	Metco 81VF-NS	23	PM 819-45	Metco 309NS-3	10
B50TF137, CI B	Metco 81NS	23	PM 819-47	Amdry 960	18
B50TF155, CI A	Metco 66F-NS	15	PM 819-47	Metco 443NS	18
B50TF161, CI A	Metco 51NS	16	PM 819-48	Amdry 500F	16
B50TF161, CI B	Metco 51F-NS	16	PM 819-51	Amdry 365-2	13
B50TF162, CI A	Amdry 962	13	PM 819-52	Metco 73F-NS-1	25
B50TF164, CI A & B	Durabrade 2211ZB	10	PM 819-52	Metco 73F-NS-1 (-45)	25
B50TF166, CI A	Metco 447NS	19	PM 819-53	Metco 71VF-NS-1	24
B50TF167, CI A	Amdry 9831	25	PM 819-54	Durabrade 2311	10
B50TF167, CI A	Diamalloy 2005NS	25	PM 819-54	Metco 312NS	10
B50TF167, CI A	Metco 73F-NS-1	25	PM 819-55	Metco 204B-NS	34
B50TF167, CI A	Metco 73F-NS-1 (-45)	25	PM 819-56 (made to order)	Metco 480NS	17
B50TF172, CI A	Durabrade 2231	10	PM 819-58	Amdry 995C	12
B50TF172, CI A	Metco 309NS-3	10	PM 819-59	Amdry 718 CI.B	18
B50TF183, CI C	Diamalloy 4004NS	18	PM 819-62	Metco 66F-NS	15
B50TF185, CI A	Amdry X40	15	PM 819-63	Diamalloy 2005NS	25
B50TF190, CI A (for F50TF69 only)	Metco 4800	15	PM 819-64	Metco 313NS	9
B50TF192, CI A	Amdry 962	13	PM 819-66	Metco 301NS	10
B50TF195, CI A	Amdry 9954	12	PM 819-70	Metco 8400	39
B50TF195, CI A	Diamalloy 4700	12	PM 819-71	Metco 8443	39
B50TF202, CI A	Amdry 718	18	PM 819-80	Metco 73SF-NS	25
B50TF202, CI B	Amdry 718 CI.B	18	PM 819-81	Metco 307NS-3	10
B50TF202, CI D	Amdry 1718	18	PM 819-84	Metco 234A	34
B50TF222, CI A	Metco 601NS	9			

Customer Specifications

Specification	Product	Page	Specification	Product	Page
GKN Aerospace (CONT'D)			Honeywell (CONT'D)		
PM 819-86.....	Amdry 9954.....	12	EMS 57750, Type I CI 1.....	Amdry 204NS-1.....	34
PM 819-88.....	Amdry 386-4.....	13	EMS 57750, Type I CI 1.....	Metco 204NS.....	34
Goodrich			EMS 57753, Type I.....	Metco 81NS.....	23
LGMS 9011 Type I.....	Diamalloy 2005NS.....	25	EMS 57753, Type II.....	Metco 81VF-NS.....	23
LGMS 9011 Type II.....	Metco 5847.....	27	EMS 57761.....	Metco 312NS.....	10
LGMS 9011 Type II.....	Metco 5847-45.....	27	EMS 57762.....	Metco 2042.....	9
WMS-103.....	Metco 54NS-1.....	15	EPS 10479, Para. 8.3.2.....	Metco 204B-NS.....	34
Hamilton Sundstrand			FP 5045, Type II.....	Metco 404NS.....	18
ESR 1487.....	Amdry 204NS-1.....	34	FP 5045, Type II.....	Metco 405NS.....	39
ESR 1487.....	Metco 204NS.....	34	FP 5045, Type V.....	Metcoloy 2.....	38
ESR 1488.....	Amdry 365-2.....	13	FP 5045, Type VI.....	Metco Aluminum.....	36
Haynes Corporation			FP 5045, Type VIII.....	Metco SF Aluminum.....	36
PS5-2005.....	Metco 136F.....	31	FP 5045, Type XI.....	Metco 308NS.....	10
PS5-2008.....	Metco 461NS.....	13	FP 5045, Type XII.....	Metco 307NS.....	10
Honeywell			FP 5045, Type XIV.....	Metco 201NS.....	33
91547-52564.....	Amdry 964.....	13	FP 5045, Type XV.....	Metco 450NS.....	17
91547-52564, App. A Sec. 1.3.....	Metco 204B-NS.....	34	FP 5045, Type XV.....	Metco 8400.....	39
91547-M3955.....	Amdry 2010.....	9	FP 5045, Type XVI.....	Metco 447NS.....	19
91547-M3955.....	Metco 601NS.....	9	FP 5045, Type XVII.....	Metco 445.....	16
91547-M3956.....	Amdry 960.....	18	FP 5045, Type XVIII.....	Metco 443NS.....	18
91547-M3956.....	Metco 443NS.....	18	FP 5045, Type XX.....	Metco 301NS.....	10
91547-M3965.....	Metco 81VF-NS.....	23	FP 5045, Type XXIV.....	Metco 310NS.....	9
91547-M3976.....	Metco 301NS.....	10	FP 5045, Type XXV.....	Durabrade 2311.....	10
EMS 52417, CI 1.....	Metco 439NS.....	22	FP 5045, Type XXV.....	Metco 312NS.....	10
EMS 52417, CI F.....	Amdry 1371.....	17	FP 5091.....	Metco 601NS.....	9
EMS 52417, Tbl 1 CI B.....	Metco 81VF-NS.....	23	M3951.....	Amdry 956.....	17
EMS 52417, Tbl 1 CI R.....	Metco 58NS.....	16	M3951.....	Metco 450NS.....	17
EMS 52432, CI IX.....	Metco 71NS.....	24	M3952.....	Metco 404NS.....	18
EMS 52432, CI XV.....	Metco 68F-NS-1.....	15	M3952.....	Metco 405NS.....	39
EMS 52432, CI XVI.....	Metco 66F-NS.....	15	M3953.....	Amdry 313X.....	17
EMS 52432, CI XXIX.....	Metco 444.....	18	M3953.....	Metco 63NS.....	17
EMS 52432, CI XXXII.....	Amdry 500C.....	16	M3954.....	Metco 439NS.....	22
EMS 52439, CI E.....	Amdry 964.....	13	M3960.....	Amdry 9625.....	13
EMS 52504 (Sec. 3.3.1.1 only).....	Metco SF Aluminum.....	36	M3961.....	Metco 447NS.....	19
EMS 52544 Sec 1.3 Type IV.....	Diamalloy 3007.....	23	M3962.....	Metco 52C-NS.....	15
EMS 57728, Type II.....	Metco 605NS.....	9	M3963.....	Metco 45VF-NS.....	15
EMS 57728, Type I.....	Metco 610NS.....	9	M3964.....	Metco 605NS.....	9
EMS 57735, Type 1.....	Amdry 2010.....	9	M3966, Type I.....	Metco 202NS.....	35
EMS 57735.....	Metco 601NS.....	9	M3966, Type II.....	Metco 204NS.....	34
EMS 57736.....	Diamalloy 2004.....	24	M3970.....	Metco 301NS.....	10
EMS 57737, Type 1.....	Amdry 964.....	13	M3975.....	Metco 73F-NS-1.....	25
EMS 57737, Type II.....	Amdry 9625.....	13	M3975.....	Metco 73F-NS-1 (-45).....	25
EMS 57738.....	Metco 63NS.....	17	M3976.....	Metco 444.....	18
EMS 57739.....	Durabrade 2231.....	10	M3978.....	Metco 204NS.....	34
EMS 57739.....	Metco 309NS-3.....	10	Howmet		
EMS 57739, CI II.....	Metco 307NS.....	10	CD 1115.....	Amdry 386.....	13
EMS 57741, CI B.....	Amdry 9954.....	12	CD 1128.....	Amdry 9954.....	12
EMS 57741, CI B.....	Diamalloy 4700.....	12	MS 1068.....	Amdry MM509.....	15
EMS 57742 (except Para. 3.4).....	Metco 52C-NS.....	15	IHI Corporation		
EMS 57743.....	Metco 54NS.....	15	ISAJT-M914.....	Amdry 9954.....	12
EMS 57746, Type I CI 2.....	Amdry 956.....	17	ISAJT-M915.....	Metco 2460NS.....	11
EMS 57746, Type I CI 2.....	Metco 450NS.....	17	Industria de Turbo Propulsores		
EMS 57746, Type I CI 1.....	Metco 480NS.....	17	SMM-902.....	Amdry 956.....	17
EMS 57746, Type II CI 2.....	Metco 404NS.....	18	SMM-902.....	Metco 450NS.....	17
EMS 57748, Type I CI 2*.....	Amdry 960.....	18	SMM-905.....	Metco 320NS.....	9
EMS 57748, Type I CI 2.....	Metco 443NS.....	18	SMM-922.....	Metco 601NS.....	9
EMS 57749, Type 1 CI 2.....	Metco 447NS.....	19	SMM-926.....	Metco 73SF-NS.....	25

* except Para. 1.3.2

Customer Specifications

Specification	Product	Page	Specification	Product	Page
Jet Avion			MTU (CONT'D)		
JA 1307	Metco 81NS	23	MTS 1439	Amdry 718 Cl.B	18
JA 1317	Metco 43F-NS	18	MTS 1452 Cond. B	Metco 2042	9
JA 1320	Metco 54NS-1	15	MTS 1471	Metco 2460NS	11
JA 1333, Cl. 1	Metco 210NS-1	33	MTS 1535	Metco 307NS	10
JA 1346	Metco 303NS-1	29	MTS 1544	Metco 320NS	9
JA 1365-2	Amdry 365-2	13	MTS 1578	Metco 8443	39
JA 13003	Metco 4800	15	MTS 1604	Amdry 1718	18
JA 13006	Metco 430NS	22			
JA 13014	Metco 51F-NS	16			
Light Helicopter			Northrup Grumman		
LHM 3314	Metco 204B-NS	34v	GM 3010-4B, Type IV, Gr. B	Metco 450NS	17
LHM 3315	Amdry 964	13			
Lucas Aerospace			Power Systems Manufacturing LLC		
LA-M-093	Metco 73F-NS-2	25	PSM-410 Appendix I	Amdry 995C	12
			PSM-410-2 Appendix I	Metco 204C-NS	34
Messier Dowty			Pratt & Whitney		
PCS-2560	Metco 5164	27	MC-2024	Metco 204B-NS	34
PCS-2560	Metco 5847	27	PMC 5124	Metco 2042	9
PCS-2561	Metco 5847	27	PMC 5129-1	Metco 314NS	10
PCS-2561	Metco 5847-45	27	PMCS 5128-1	Metco 320NS	9
PCS-2561	WOKA 3655	27	PWA 1185-2	Amdry MM509	15
MTU			PWA 1301	Metco 71VF-NS-1	24
MTH 627	Amdry 355	15	PWA 1302	Metco 71NS	24
MTL 116	Metco 443NS	18	PWA 1306	Metco 70C-NS	23
MTS 1049	Metco 42C	16	PWA 1307	Metco 81NS	23
MTS 1050	Metco 43C-NS	18	PWA 1310	Metco 105NS	30
MTS 1052	Metco 54NS-1	15	PWA 1311	Metco 101B-NS	30
MTS 1054	Metco 63NS	17	PWA 1312	Metco 201B-NS	33
MTS 1056	Metco 72F-NS	24	PWA 1313	Amdry 313X	17
MTS 1059	Metco 101NS	30	PWA 1313	Metco 63NS	17
MTS 1061	Metco 101B-NS	30	PWA 1315	Metco 43C-NS	18
MTS 1067	Metco 201B-NS	33	PWA 1316	Metco 45VF-NS	15
MTS 1069	Metco 301C-NS	10	PWA 1317	Metco 43F-NS	18
MTS 1070	Durabrade 2221	10	PWA 1318	Metco 45C-NS	15
MTS 1071	Durabrade 2241	10	PWA 1319	Metco 43VF-NS	18
MTS 1071	Metco 308NS-3	10	PWA 1320	Metco 54NS	15
MTS 1073	Metco 404NS	18	PWA 1320	Metco 54NS-1	15
MTS 1074	Metco 430NS	22	PWA 1321	Metco 404NS	18
MTS 1077	Metco 443NS	18	PWA 1322	Metco 439NS	22
MTS 1079	Metco 447NS	19	PWA 1325	Metco 106NS	31
MTS 1080	Amdry 956	17	PWA 1333	Metco 210NS-1	33
MTS 1080	Metco 450NS	17	PWA 1334	Metco 405NS	39
MTS 1081	Metco 601NS	9	PWA 1335	Metco 52C-NS	15
MTS 1121	Durabrade 2223	10	PWA 1337	Amdry 956	17
MTS 1121	Metco 307NS-2	10	PWA 1337	Metco 450NS	17
MTS 1124	Metco 81NS	23	PWA 1342	Metco 301NS	10
MTS 1125	Metco 81VF-NS	23	PWA 1346	Metco 303NS-1	29
MTS 1130	Metco 410NS	29	PWA 1347	Amdry 960	18
MTS 1136	Sprabronze AA	37	PWA 1347	Metco 443NS	18
MTS 1228	Metco 45C-NS	15	PWA 1349	Amdry 2010	9
MTS 1229	Metco 405NS	39	PWA 1349	Metco 601NS	9
MTS 1237	Metco 312NS	10	PWA 1352	Durabrade 2224	10
MTS 1247	Metco 71VF-NS	24	PWA 1352-1	Durabrade 2222	10
MTS 1333	Amdry 962	13	PWA 1352-1	Metco 307NS	10
MTS 1346	Metco 45VF-NS	15	PWA 1352-2	Metco 308NS	10
MTS 1376	Amdry 718 Cl.B	18	PWA 1355	Amdry 355	15
MTS 1412	Durabrade 2313	10	PWA 1364	Metco 82VF-NS	23
MTS 1438	Amdry 625	18	PWA 1365-1	Amdry 365-1	13
			PWA 1365-2	Amdry 365-2	13
			PWA 1367	Amdry 367	23
			PWA 1369	Metco 57NS	16

Customer Specifications

Specification	Product	Page	Specification	Product	Page
Pratt & Whitney (CONT'd)			Rolls-Royce Corporation (CONT'd)		
PWA 1375	Amdry 204NS-1	34	EMS 56759	Metco SF Aluminum	36
PWA 1375	Metco 204NS	34	EMS 56760	Metco 43C-NS	18
PWA 1378-2	Metco 51F-NS	16	EMS 56762	Metco 444	18
PWA 1380	Metco 480NS	17	EMS 56764	Metco 310NS	9
PWA 1384-1	Amdry 386-4	13	EMS 56765	Metco 311NS	9
PWA 1384-2	Amdry 386-3	13	EMS 56766	Metco 52C-NS	15
PWA 1386 (chemistry only)	Amdry 386-2.5	13	EMS 56767	Amdry 2000	9
PWA 1386 (chemistry only)	Amdry 386-5	13	EMS 56768	Metco 2043	9
PWA 1386-1	Amdry 386	13	EMS 56769	Amdry 995C	12
PWA 1386-2	Amdry 386-2	13	EMS 56771	Metco 314NS	10
PWA 1393	Durabrade 2311	10	EMS 56772	Metco 443NS	18
PWA 1393	Metco 312NS	10	EMS 56786	Amdry 500C	16
PWA 36087	Metco 202NS	35	EMS 56786	Metco 58NS	16
PWA 36097	Metco 600NS-1	10	EMS 70013	Metco 405NS	39
PWA 36294-1S	Metco 2042	9	PMI 1046	Sprabronze AA	37
PWA 36318	Metco 204AF	34	PMI 1147	Metco 105NS	30
PWA 36326	Metco 6043	31	PMI 1097	Metco 308NS-1	10
PWA 36331-2	Diamalloy 2005NS	25	PMI 1160-1	Metcolite C	42
PWA 36332-1S	Diamalloy 3007	23	PMI 1163	Amdry 956	17
PWA 36334-1S	Diamalloy 4008NS	17	PMI 1163	Metco 450NS	17
PWA 36382, Sec. 3.1.2.2	Metco 210	33	PMI 1173	Metco 55	16
PWA 36390	Metco 6042	31	PMI 1210	Metco 601NS	9
PWA 36935	Metco 8234	36	PMI 1252	Amdry 313X	17
PWA 36937	Metco 8400	39	PMI 1268	Metco 310NS	9
PWA 36947	Metco 8443	39	PMI 1270	Metco 444	18
Pratt Whitney Component Repairs			PMI 1329	Metco 66F-NS	15
MS 1068	Amdry MM509	15	PMI 1332	Amdry 2000	9
Praxair			PMI 1351	Amdry 963	13
PAB360	Amdry 2010	9	PMI 1363	Metco 445	16
PAB360	Metco 601NS	9	PMI 1364	Amdry XPT-268	9
PS-030114-RM	Metco 54NS-1	15	PMI 1410	Metco 301NS	10
PS-036009	Metco 450NS	17	Rolls-Royce OMAT		
PS-55007	Metco 600NS	10	3/37A	Metco Anti-Bond	41
Rolls-Royce Corporation			3/45	Metcoloy 2	38
EMS 29005	Metcolite C	42	3/45A	Metco 42C	16
EMS 38900	Metco 601NS	9	3/80A	Metco 81NS	23
EMS 39660	Diamalloy 2005NS	25	3/81B	Metco 45C-NS	15
EMS 39661	Diamalloy 4008NS	17	3/90	Metco 405NS	39
EMS 39662	Diamalloy 3004	23	3/91A	Metco 307NS-2	10
EMS 39662	Metco 81VF-NS	23	3/103	Metco 42C	16
EMS 39664, CI II	Diamalloy 4700	12	3/113A	Metco 301C-NS	10
EMS 50209A	Sprabronze AA	37	3/114C	Metco 73F-NS-2	25
EMS 56705	Amdry 313X	17	3/114D	Amdry 9831	25
EMS 56712	Metco 66F-NS	15	3/135	Amdry 960	18
EMS 56713	Metco 68F-NS-1	15	3/135	Metco 443NS	18
EMS 56719	Amdry 963	13	3/136	Metco 210NS-1	33
EMS 56720	Metco 201NS	33	3/137	Metco 441NS-1	29
EMS 56722	Metco 204B-NS	34	3/143	Metco 601NS	9
EMS 56723	Amdry XPT-268	9	3/143B	Amdry 2010	9
EMS 56726	Metco 206A	35	3/144	Metco 56C-NS	17
EMS 56730	Metco 301NS	10	3/175	Metco 310NS	9
EMS 56753	Metco 445	16	3/179	Metco 447NS	19
EMS 56754	Durabrade 2224	10	3/185A	Metco 204B-NS	34
EMS 56755	Metco 308NS-1	10	3/187	Metco 313NS	9
EMS 56756	Metco 72F-NS	24	3/188	Metco 450NS	17
EMS 56757	Amdry 956	17	3/188A	Amdry 956	17
EMS 56757	Metco 450NS	17	3/190	Metco 81VF-NS	23
EMS 56758	Metco 105NS	30	3/202	Metco 314NS	10
			3/229A	Metco 8400	39
			3/252	Metco 320NS	9

Customer Specifications

Specification	Product	Page	Specification	Product	Page
Rolls-Royce OMAT (CONT'D)			Rolls-Royce plc (CONT'D)		
3/254	Metco 311NS	9	MSRR 9507/50	Metco 101B-NS	30
3/270	Amdry 625	18	MSRR 9507/53	Metco 106NS	31
3/271A	Metco 8443	39	MSRR 9507/54	Durabrade 2313	10
3/272A	Metco 8447	39	MSRR 9507/54	Metco 314NS	10
3/276	Diamalloy 2005NS	25	MSRR 9507/55	Amdry 500F	16
3/277A	Metcoloy 2	38	MSRR 9507/58	Metco 72F-NS	24
328	Amdry 500C	16	MSRR 9507/60	Metco 52C-NS	15
328	Metco 58NS	16	MSRR 9507/64	Metco 600NS	10
Rolls-Royce plc			MSRR 9507/66	Metco 320NS	9
Comat 03-238	Metco 314NS	10	MSRR 9507/67	Metco 311NS	9
CSS 196	Metco Masking Compd	41	MSRR 9507/69	Diamalloy 2005NS	25
MSRR 9507/1	Metco 73F-NS-2	25	MSRR 9507/71	Diamalloy 3007	23
MSRR 9507/1	Amdry 9831	25	MSRR 9507/73	Amdry 9951	12
MSRR 9507/2	Metco 81NS	23	MSRR 9507/86	Diamalloy 4700	12
MSRR 9507/3	Metco 45C-NS	15	MSRR 9507/101	Metco 405NS	39
MSRR 9507/4	Metco 404NS	18	MSRR 9507/103	Metcoloy 2	38
MSRR 9507/5	Amdry 956	17	MSRR 9507/104	Metco SF Aluminum	36
MSRR 9507/5	Metco 450NS	17	MSRR 9507/104	Metco SF-NS Aluminum	36
MSRR 9507/5	Metco 480NS	17	MSRR 9507/105	Metco Aluminum	36
MSRR 9507/6	Durabrade 2223	10	MSRR 9507/106	Metco Zinc	40
MSRR 9507/6	Metco 307NS-2	10	MSRR 9507/110	Metco Copper	37
MSRR 9507/7	Metco 16C-NS	21	MSRR 9507/111	Sprabronze AA	37
MSRR 9507/8	Metco 43C-NS	18	MSRR 9507/113	Metco Silverloy	40
MSRR 9507/9	Metco 105NS	30	MSRR 9513	Metco 56C-NS	17
MSRR 9507/10	Metco 301C-NS	10	RRMS 40000	Metco 204B-NS	34
MSRR 9507/12	Durabrade 2224	10	RRMS 40001	Amdry 995C	12
MSRR 9507/13	Metco 54NS-1	15	RRMS 40005	Amdry 500C	16
MSRR 9507/14	Amdry 960	18	RRMS 40005	Metco 58NS	16
MSRR 9507/14	Metco 443NS	18	RRMS 40006	Amdry 313X	17
MSRR 9507/15	Metco 601NS	9	RRMS 40006	Metco 63NS	17
MSRR 9507/16	Durabrade 2241	10	RRMS 40014	Metco 314NS	10
MSRR 9507/16	Metco 308NS-3	10	RRMS 40015	Diamalloy 2005NS	25
MSRR 9507/17	Metco 81VF-NS	23	RRMS 40016	Metco 405NS	39
MSRR 9507/18	Metco 201NS	33	RRMS 40019	Metco 601NS	9
MSRR 9507/19	Amdry 313X	17	RRMS 40020	Metco 105NS	30
MSRR 9507/19	Metco 63NS	17	RRMS 40021	Amdry XPT-268	9
MSRR 9507/20	Metco 441NS-1	29	RRMS 40022	Amdry 956	17
MSRR 9507/21	Metco 210NS-1	33	RRMS 40022	Metco 450NS	17
MSRR 9507/23	Metco 45VF-NS	15	RRMS 40023	Metco 320NS	9
MSRR 9507/24	Metco 51NS	16	RRMS 40024	Metco 66F-NS	15
MSRR 9507/27	Metco 43F-NS	18	RRMS 40025	Metco 68F-NS-1	15
MSRR 9507/28	Metco 303NS-1	29	RRMS 40026	Diamalloy 3004	23
MSRR 9507/29	Metco 51F-NS	16	RRMS 40027	Metco 313NS	9
MSRR 9507/30	Metco 310NS	9	RRMS 40028	Metco 2043	9
MSRR 9507/31	Amdry 500C	16	RRMS 40029	Metco 81NS	23
MSRR 9507/31	Metco 58NS	16	RRMS 40032	Metco 73F-NS-2	25
MSRR 9507/34	Metco 430NS	22	RRMS 40037	Metco 45C-NS	15
MSRR 9507/35	Metco 447NS	19	RRMS 40038	Amdry 960	18
MSRR 9507/36	Metco 101NS	30	RRMS 40038	Metco 443NS	18
MSRR 9507/37	Metco 202NS	35	RRMS 40039	Metco 106NS	31
MSRR 9507/38	Metco 445	16	RRMS 40040	Metco 447NS	19
MSRR 9507/40	Metco 605NS	9	RRMS 40043	Metco 45VF-NS	15
MSRR 9507/41	Metco 71VF-NS	24	RRMS 40050	Amdry 963	13
MSRR 9507/42	Metco 73SF-NS	25	Saab		
MSRR 9507/43	Metco 450P	17	STD 113969	Metco 54NS	15
MSRR 9507/44	Metco 313NS	9	SAE International		
MSRR 9507/45	Durabrade 2311	10	AMS 2447-2	Diamalloy 3002NS	15
MSRR 9507/45	Metco 312NS	10	AMS 2447-9	Metco 5164	27
MSRR 9507/46	Metco 204B-NS	34	AMS 2447-9	Metco 5847	27
MSRR 9507/47	Amdry 995C	12			

Customer Specifications

Specification	Product	Page	Specification	Product	Page
SAE International (CONT'D)			Siemens (CONT'D)		
AMS 4190	Metco SF Aluminum	36	TLV511114001 Ind F	Amdry 2479C	14
AMS 4998	Metco 4030A	20	TLV51114001 Ind F	Amdry 2464A	14
AMS 4998	Metco 4030B	20			
AMS 4998	Metco 4030C	20	Sikorsky		
AMS 4998	Metco 4031A	20	SS9212	Metco 604NS	9
AMS 4998	Metco 4031B	20			
AMS 4998	Metco 4031C	20	Snecma		
AMS 5739	Metco 450NS	17	212-006	WOKA 3655	27
AMS 5791	Metco 45C-NS	15	CFM CP 5021	Metco 405NS	39
AMS 7875	Metco 81VF-NS	23	DMR 33.087	Metco 601NS	9
AMS 7879	Metco 71VF-NS	24	DMR 33.005	Metco 81NS	23
AMS 7879	Metco 71VF-NS-1	24	DMR 33.006	Metco 81VF-NS	23
AMS 7880	Metco 72F-NS	24	DMR 33.007	Metco 45C-NS	15
AMS 7881, Method 1 & 2	Metco 5143	25	DMR 33.008	Metco 45VF-NS	15
AMS 7882, Method 1	Metco 5847	27	DMR 33.010	Metco 404NS	18
AMS 7882, Method 1 & 2	Metco 5163	27	DMR 33.011	Amdry 956	17
AMS 7882, Method 2	Metco 5165	27	DMR 33.011	Metco 450NS	17
AMS 7882, Method 2	WOKA 3652 AMS	27	DMR 33.012	Metco 54NS	15
AMS 7882, Method 3	Metco 5164	27	DMR 33.013	Metco 101B-NS	30
AMS 7882, Method 3	Metco 5847-45	27	DMR 33.014	Metco 430NS	22
			DMR 33.015	Metco 57NS	16
Siemens			DMR 33.016	Amdry 500C	16
CT-102	Amdry 9951	12	DMR 33.016	Metco 58NS	16
DGTLV-11114001 Ind 7, 3000911102	Amdry 2483A	14	DMR 33.017	Metco 63NS	17
DGTLV-11114001 Ind 7, 3000911103	Amdry 2483B	14	DMR 33.018	Amdry 960	18
DGTLV-11114001 Ind 7, 3000911105	Amdry 2483C	14	DMR 33.018	Metco 443NS	18
DGTLV 511133001 Ind C Sec 6.1	Metco 4800	15	DMR 33.019	Metco 73F-NS-1	25
DGTLV 511143001 Index A	Durabrade 2197	11	DMR 33.019	Metco 73F-NS-1 (-45)	25
HTCT 650564	Metco 204NS-G	34	DMR 33.020	Metco 101NS	30
MAT 870022	Amdry 386-4	13	DMR 33.027	Metco 52C-NS	15
MS 003 Ind 7	Amdry 2483A	14	DMR 33.033	Metco 71NS	24
MS 003 Ind 7	Amdry 2483B	14	DMR 33.046	Metco 51NS	16
MS 003 Ind 7	Amdry 2483C	14	DMR 33.050	Metco 405NS	39
MS 004 Index 8	Metco 233C	34	DMR 33.053	Metco SF Aluminum	36
PD13445	Metco 58NS	16	DMR 33.055	Sprabronze AA	37
PD13445DB	Amdry 500C	16	DMR 33.070	Amdry 958	15
PD83269A4	Metco 81VF-NS	23	DMR 33.078	Metco 43C-NS	18
PD83336AA, Sec. 7.2 & 7.2.2	Amdry 204NS-1	34	DMR 33.079	Metco 43F-NS	18
PD83336AA, Sec. 7.2 & 7.2.2	Metco 204NS	34	DMR 33.080	Metco 105NS	30
PD83336AB	Amdry 995C	12	DMR 33.081	Metco 410NS	29
PD83336AB, Sec. 5.3 & 5.3.1	Amdry 204NS-1	34	DMR 33.084	Durabrade 2221	10
PD83336AB, Sec. 5.3 & 5.3.1	Metco 204NS	34	DMR 33.084	Metco 307NS-3	10
PD83336Z2, Sec. 7.3 & 7.3.2	Amdry 204NS-1	34	DMR 33.085	Metco 301NS	10
PD83336Z2, Sec. 7.3 & 7.3.2	Metco 204NS	34	DMR 33.089	Metco 201B-NS-1	33
PD83336X1	Durabrade 2198	11	DMR 33.090	Amdry 962	13
PD83336X1	Durabrade 2198A	11	DMR 33.092	Metco 51F-NS	16
PD83336Y5	Durabrade 2197	11	DMR 33.095	Amdry 9951	12
PD83336Y6	Metco 6041	31	DMR 33.098	Metco 204B-NS	34
Sicoat 2231 per MS 003 Ind 06	Amdry 2231C	14	DMR 33.100	Metco 320NS	9
Sicoat 2231 per TLV51100305	Amdry 2231B	14	DMR 33.101	Metco 2043	9
Sicoat 2231 per TLV511114001 Ind F	Amdry 2231D	14	DMR 33.501	Metco 73F-NS-1	25
Sicoat 2231 per TLV511114001 Ind F	Amdry 2231A	14	DMR 33.501	Metco 73F-NS-1 (-45)	25
Sicoat 2453 per TLV511114001 Ind F	Amdry 2453A	14	DMR 33.502	Amdry 1718	18
Sicoat 2464 per TLV 51100305	Amdry 2464C	14			
Sicoat 2464 per TLV 51100305	Amdry 2464D	14	Solar Turbines		
Sicoat 2464 per TLV 51100305	Amdry 2464E	14	ES6-423	Metco 430NS	22
Sicoat 2464 per TLV 51100305	Amdry 2464G	14	ES9-110B, CI A	Metco 204NS	34
TLV51100305	Amdry 2464A	14	ES9-362, Type B (chemistry & size only)	Amdry 9800B	14
TLV51100305	Amdry 2464B	14			
TLV511114001 Ind F	Amdry 2479A	14	Sumitomo		
TLV511114001 Ind F	Amdry 2479B	14	SMM-904	Diamalloy 2005NS	25

Customer Specifications

Specification	Product	Page	Specification	Product	Page
Technetics			U. S. Military (CONT'D)		
RM-1050	Metco 600NS.	10	MIL-P-83348 Type 1 Comp H Cl 2. . .	Metco 450NS.	17
Turbine Airfoil Coating and Repair			Naval OS10604 Type II	Metco 201B-NS.	33
MS 201-1	Amdry 204NS-1	34	SA-ALC 97P1271.	Metco 204NS.	34
MS 525A	Metcoloy 2	38	USAF 67A60753 Type P-3	Metco 404NS.	18
MS 525F	Metco 405-1	39	USAF 67A60753	Metco 63NS.	17
TACR 05-366 Type 5 & 6	Amdry 204NS-1	34	USAF 67A60753 Type P-2	Metco 54NS.	15
TACR 05-367 Type 1	Amdry 2464G	14	Voight		
TACR 05-367 Type 8	Amdry 9951	12	207-2-402	Metco 54NS.	15
Turbomeca			Williams		
LA 657 Ed. 1 PA2 Ind.0	Amdry 956	17	CWIMS 734	Amdry 2010	9
LA 657 Ed. 1 PD2 Ind.0	Amdry 962	13	CWIMS 765	Metco 105NS.	30
LA 657 Ed. 1 PW1 Ind. 0	Metco 601NS.	9	CWIMS 794	Diamalloy 3007	23
LA 657 FA 0	Metco 405NS.	39	CWIMS 795	Diamalloy 2005NS	25
LA 657 PE1 Ind. 0	Amdry 995C.	12	WIMS 622	Metco 56C-NS.	17
LA 657 PF1 Ind. 0	Amdry 997	13	WIMS 642	Metco 81NS.	23
U. S. Military			WIMS 643	Metco 81VF-NS.	23
A-A 59315/6	Metco 43F-NS.	18	WIMS 644	Amdry 956	17
A-A 59315/7	Metco 43C-NS.	18	WIMS 644	Metco 450NS.	17
A-A 59315/9	Metco 63NS.	17	WIMS 645	Metco 447NS.	19
A-A 59315/15	Metco 447NS.	19	WIMS 646	Amdry 960	18
A-A-59315/20 Type I Class I.	Metco 43VF-NS.	18	WIMS 646	Metco 443NS.	18
A-A-59315/32	Metco 70F-NS.	23	WIMS 647	Metco 601NS.	9
A-A 59315/34 Type II Class I.	Metco 105NS.	30	WIMS 648	Metco 136F	31
A-A-59315/35 Type II Class I.	Metco 101NS.	30	WIMS 650	Metco 101B-NS.	30
A-A-59315/39 Type III.	Metco 81VF-NS.	23	WIMS 652	Metco 204B-NS.	34
MIL-P-83348 Table 3 Comp C	Metco 81VF-NS.	23	WIMS 654, Cl B	Amdry 962	13
MIL-P-83348 Type 1 Comp A Cl 2 ..	Metco 63NS.	17	WIMS 742B Type III	Metco 2043	9
MIL-P-83348 Type 1 Comp C Cl 1. .	Metco 45VF-NS.	15	WIMS 770	Metco 204C-NS.	34
MIL-P-83348 Type 1 Comp. E	Metco 52C-NS.	15	WIMS 771	Amdry 718	18
MIL-P-83348 Type 1 Comp FF Cl 2 ..	Metco 447NS	19	WIMS 773	Amdry 625	18

Notes

Thermal Spray Materials

Advanced Technology Solutions and Services



Perfect solutions through optimum materials and innovative technologies

Oerlikon Metco is a global leader in surface engineering solutions and services offering:

- A broad range of thermal spray, laser cladding and other advanced surface technology equipment
- Integrated systems and materials
- Specialized coating and surface enhancement services
- Manufactured components for the turbine, automotive and other industries
- Customer support services

Oerlikon Metco provides a comprehensive manufacturing, distribution and service network, catering to aviation, power generation, automotive and other strategic growth industries.

To take control of your surface engineering challenges, contact your Oerlikon Metco sales office, visit our web site at www.oerlikon.com/metco or e-mail us at info.metco@oerlikon.com.

About Oerlikon Metco

Oerlikon Metco enhances surfaces that bring benefits to customers through a uniquely broad range of surface technologies, equipment, materials, services, specialized machining services and components. The surface technologies such as Thermal Spray and Laser Cladding improve the performance and increase efficiency and reliability. Oerlikon Metco serves industries such as aviation, power generation, automotive, oil & gas, industrial and other specialized markets and operates a dynamically growing network of more than 50 sites in EMEA, Americas and Asia Pacific. Oerlikon Metco, together with Oerlikon Balzers, belongs to the Surface Solutions Segment of the Switzerland-based Oerlikon Group.

Information is subject to change without prior notice.