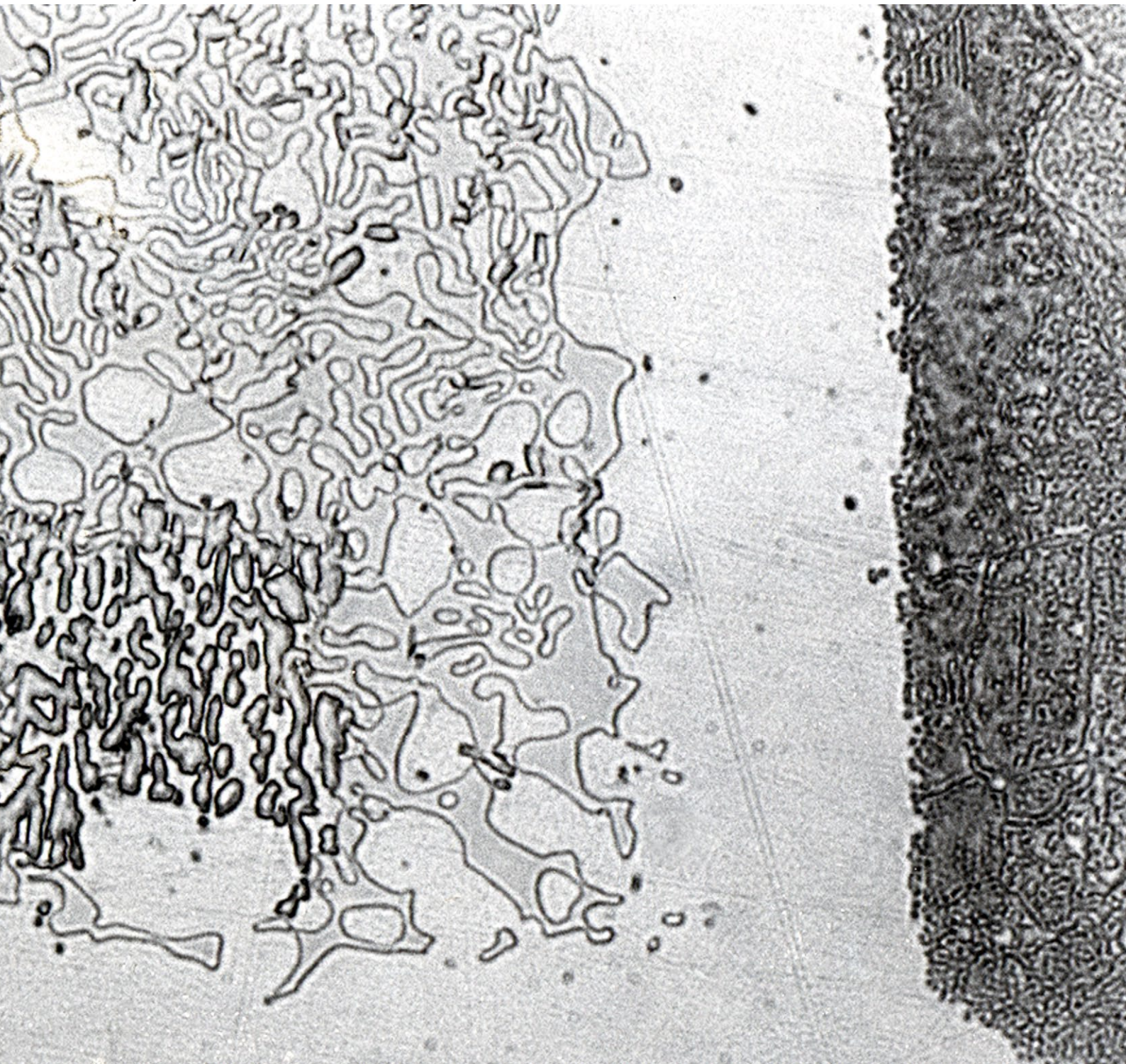


Braze Materials Guide

Issue: May 2017



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The Oerlikon Metco Difference

Every successful brazing solution starts with the right material choice.

Oerlikon Metco is a world-class manufacturer and supplier of high-temperature brazing materials for a wide range of joining and fastening applications. Many of our braze alloys are available in a variety of forms, including powder, paste, adhesive or non-adhesive tape and preforms. Consult with your Oerlikon Metco sales representative for custom solutions appropriate for your application.

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 standard and custom

brazing materials perform to your demanding requirements.

Our braze portfolio is just one of our many material specialties. Should your needs be better suited to thermal spray, hardface welding, PTA, laser cladding, 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.

Key Information

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
Stellite	Kennametal Inc.
Tribaloy	Kennametal Inc.

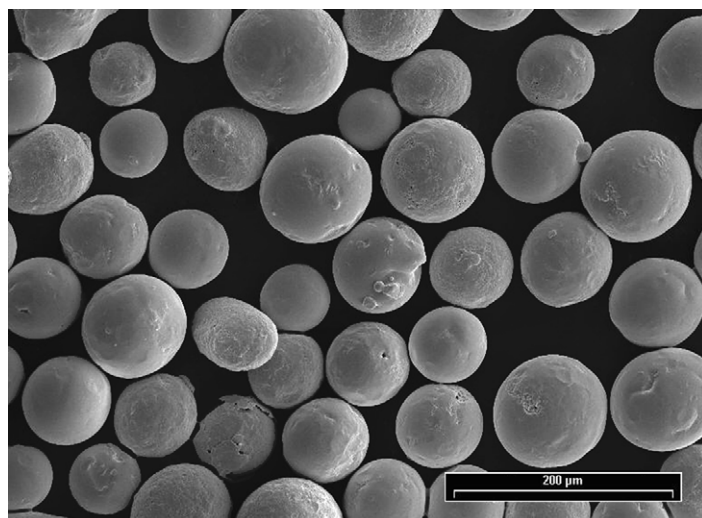
The following product brands used in this guide or other media are Oerlikon Metco trademarks or registered trademarks:

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

Symbols

The following Chemical Symbols are used in this guide:

Al	Aluminum	Mn	Manganese
B	Boron	Nb (Cb)	Niobium
C	Carbon or Carbide	Ni	Nickel
Co	Cobalt	P	Phosphorus
Cr	Chromium	RE	Rare Earths
Cu	Copper	Si	Silicon
Fe	Iron	Ta	Tantalum
In	Indium	Ti	Titanium
La	Lanthanum	W	Tungsten
Mo	Molybdenum	Y	Yttrium



Amdry braze alloy powders are produced using dry gas atomization, which ensures is high quality, homogeneous product.

Key Information

Braze Characteristics

The quality of brazed joints is very subjective and based on a number of variables including the composition of the base metal, joint size and configuration, method of heating, time at temperature and the braze alloy used.

The following comparative descriptions are provided for braze materials in this guide to aid in the selection of a braze alloy for a specific application:

Joint Strength

- **Good:** Recommended for low stress service conditions or where joint stress is not a factor.
- **Excellent:** Recommended for service conditions where joint stress is a primary design factor.

Ductility

- **Good:** Recommended for service conditions where joint ductility is not

a primary consideration or not a factor.

- **Excellent:** Recommended for service conditions where joint ductility is a primary design factor or for joints where extensive post-braze machining will be performed.

Viscosity

- **Sluggish:** The alloy at braze temperature will form a thick, viscous liquid with little capillary action and is generally not recommended to fill blind or tight joints. Pre-placement of the braze alloy or additional time at the braze temperature will result in a successful braze joint. There is some wide-gap capability with these alloys.
- **Medium Flowing:** The alloy at braze temperature will form a liquid of medium viscosity that is capable of filling shallow or blind joints

without the necessity for additional time or temperature at heat.

- **Free Flowing:** The alloy at braze temperature will form a runny, low viscosity liquid with high capillary action. Generally capable of filling deep, blind and narrow braze joints.

Gap Size

- **Narrow:** Capable of filling narrow, tight gaps and joints
- **Normal:** Capable of filling standard gaps and joints
- **Wide Gap:** Capable of filling wide gaps and joints

For specific gap size recommendations please see the appropriate product data sheet for the braze alloy of interest.

Product Forms and Availability

Oerlikon Metco supplies braze products in a variety of forms. Where available, customers can choose the form that is most convenient and efficient for their production needs. Icons throughout this guide identify the forms available for material products in that section.



Braze powder



Braze paste



Braze tape



Braze preforms

All products are available globally. Products marked **Proprietary** are only available to qualified purchasers of that product.

Braze Powder:

Amdry braze alloy powders are produced by dry gas atomization, which generates particles that are clean, dense, spherical and dry. Each particle

contains precise amounts of the alloying elements, and powders are uniform and homogeneous.

The individual **product data sheet** available for each braze alloy includes product availability and technical details for the product. The product data sheet number for each product is provided in this guide.

Braze Paste:

Amdry braze paste is composed of one or more Amdry braze alloy powders and a neutral, flux-free binder. The binder percentage ranges from 10% to 14% by weight, resulting in a consistent, easily extruded braze paste.

Braze paste is available in a variety of package types and a choice of paste binders which must be specified when ordering. Information about our braze paste product options can be found in product data sheet **DSMB-0001**. Individual product data sheets provide information on the availability of standard

paste products; however, package size and binder combinations not listed are available as a special order.

Braze Tape:

Amdry braze tapes are a uniform layer of cast braze alloy and a binder wound in rolls for ease of handling. All Amdry braze tapes are made-to-order.

Please refer to product data sheet **DSMB-0002** for more information about Amdry Braze Tape, including size options (thickness, width and roll length) and application of adhesive, if desired, to suit your particular application needs.

Braze Preforms:

Amdry braze tape is available in custom cut preform shapes, manufactured to tight tolerances with adhesive backing, which are easy to apply for brazing. All preforms are made-to-order to customer requirements. More information about our custom Amdry Braze Preforms can be found in product data sheet **DSMB-0002**.

Key Information

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

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

Example: Click the link for Amdry 400 in the Product Index ① to navigate directly to the description of Amdry 400 in the body ② of the guide.

Product Index

Product	Page	Product
Amdry 100	5	Amdry 915
Amdry 100C	5	Amdry 7701
Amdry 100F	5	Amdry 7703
Amdry 103	5	Amdry 7801
Amdry 105	6	Amdry 7901
Amdry 400	5	Amdry 8249
Amdry 485	9	Amdry 8626
Amdry 485/509	9	Amdry 8670
Amdry 625	11	Amdry 9150
Amdry 718		
Amdry 718		
Amdry 718		

Braze Alloys

Cobalt Base

Chemistry	Particle Size	Product	Manufacture	Applications
Co 19Cr 17Ni 8Si 4W (AWS 5.8 BCo-1)	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 400	Gas Atomized	<div style="text-align: right; font-size: small; color: red;">Data Sheet DSMB-0011</div> <ul style="list-style-type: none"> ▪ Use on cobalt-based superalloys ▪ For turbine engine components ▪ Excellent corrosion and oxidation resistance ▪ Solidus: 1120 °C (2050 °F) ▪ Liquidus: 1150 °C (2100 °F) ▪ Gap Size: Narrow ▪ Viscosity: Free-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 1205 °C (2200 °F)

Iron Base

Chemistry	Particle Size	Product	Manufacture	Applications
Fe 29Cr 18Ni 7Si 6P 0.2RE	-106 +45 µm -140 +325 mesh			<div style="text-align: right; font-size: small; color: red;">Data Sheet DSMB-0018</div> <ul style="list-style-type: none"> ▪ Use on steels and stainless steels for high temperature applications ▪ For heat exchanger ▪ Low cost, high strength ▪ based on



Cobalt Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0011				
Co 19Cr 17Ni 8Si 4W 0.8B 0.4C (AWS 5.8 BCo-1)	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 400	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on cobalt-based superalloys ▪ For turbine engine components ▪ Excellent corrosion and oxidation resistance ▪ Solidus: 1120 °C (2050 °F) ▪ Liquidus: 1150 °C (2100 °F) ▪ Gap Size: Narrow ▪ Viscosity: Free-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 1205 °C (2200 °F)

Iron Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0018				
Fe 29Cr 18Ni 7Si 6P 0.2RE	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 805	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on steels and stainless steels for high temperature applications ▪ For heat exchangers, EGR coolers, etc. ▪ Low cost, high quality alternative to nickel-based braze alloys ▪ Excellent corrosion and oxidation resistance ▪ Solidus: 1074 °C (1965 °F) ▪ Liquidus: 1104 °C (2020 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent

Nickel Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0007				
Ni 19Cr 10Si (AWS 5.8 BNi-5)	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 100	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on superalloys, stainless steels ▪ Good corrosion and oxidation resistance ▪ Solidus: 1080 °C (1975 °F) ▪ Liquidus: 1135 °C (2075 °F) ▪ Gap Size: Narrow ▪ Viscosity: Free-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 1038 °C (1900 °F)
	-125 +45 µm -120 + 325 mesh (AWS 140C)	Amdry 100C		
	-45 µm -325 mesh	Amdry 100F		

Data Sheet DSMB-0008				
Ni 19Cr 10Si 10(Ni 2.15Si 0.95B)	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 103	Gas Atomized Blend	<ul style="list-style-type: none"> ▪ Use on superalloys, stainless steels ▪ Good corrosion and oxidation resistance ▪ Suitable for joint gaps larger than 0.1 mm (0.004 in) by design or as the result of component mis-machining ▪ Solidus: 1080 °C (1975 °F) ▪ Liquidus: 1135 °C (2075 °F) ▪ Gap Size: Wide ▪ Viscosity: Sluggish ▪ Ductility: Good ▪ Joint Strength: Good ▪ Service Temp.: ≤ 1038 °C (1900 °F)



Nickel Base

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0009				
Ni 23Cr 6Si 5P	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 105	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on superalloys, stainless steels, steels ▪ Excellent corrosion and oxidation resistance ▪ For automotive and high volume applications such as heat exchangers and EGR coolers, etc. ▪ Ideal for thin wall components; does not promote grain growth or cause erosion ▪ Solidus: 993 °C (1820 °F) ▪ Liquidus: 1010 °C (1850 °F) ▪ Gap Size: Narrow ▪ Viscosity: Free-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 980 °C (1800 °F)
Data Sheet DSMB-0013				
Ni 7Cr 4.5Si 3Fe 3B (AWS 5.8 BNi-2)	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 770	Gas Atomized	<ul style="list-style-type: none"> ▪ Excellent oxidation resistance ▪ Tolerates high-stress loads ▪ For turbine engine components, food processing equipment, etc. ▪ Choose product by OEM specification required, if any. ▪ Solidus: 970 °C (1780 °F) ▪ Liquidus: 1000 °C (1830 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 980 °C (1800 °F)
	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 7701		<ul style="list-style-type: none"> ▪ Solidus: 970 °C (1780 °F) ▪ Liquidus: 1000 °C (1830 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 980 °C (1800 °F)
	-45 µm -325 mesh (AWS 325)	Amdry 7703		<ul style="list-style-type: none"> ▪ Solidus: 970 °C (1780 °F) ▪ Liquidus: 1000 °C (1830 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 980 °C (1800 °F)
Data Sheet DSMB-0014				
Ni 15Cr 3.5B	-106 +45 µm -140 +325 mesh	Amdry 775	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on superalloys, stainless steels ▪ Silicon free ▪ Brazes with a bright, shiny finish ▪ Difficult to machine ▪ Solidus: 1020 °C (1870 °F) ▪ Liquidus: 1050 °C (1925 °F) ▪ Gap Size: Narrow ▪ Viscosity: Medium-flowing ▪ Ductility: Excellent ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 980 °C (1800 °F)
Data Sheet DSMB-0015				
Ni 3.2B 4.5Si (AWS 5.8 BNi-3)	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 780	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on superalloys, stainless steels ▪ Tolerates high stress loads ▪ Good corrosion resistance ▪ Amdry 7801 meets GE specification ▪ Solidus: 980 °C (1800 °F) ▪ Liquidus: 1040 °C (1900 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Excellent ▪ Joint Strength: Very Good
	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 7801		<ul style="list-style-type: none"> ▪ Solidus: 980 °C (1800 °F) ▪ Liquidus: 1040 °C (1900 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Excellent ▪ Joint Strength: Very Good
	-106 µm -140 mesh	Amdry 7804		<ul style="list-style-type: none"> ▪ Solidus: 980 °C (1800 °F) ▪ Liquidus: 1040 °C (1900 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Excellent ▪ Joint Strength: Very Good



Nickel Base

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0017				
Ni 3.5Si 2B (AWS 5.8 BNi-4)	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 790	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on superalloys, stainless steels ▪ Good choice when large fillets are desirable or where joint is to be machined after brazing ▪ Good corrosion resistance ▪ Amdry 7901 meets GE specification ▪ Solidus: 980 °C (1800 °F) ▪ Liquidus: 1065 °C (1950 °F) ▪ Gap Size: Wide ▪ Viscosity: Medium-flowing ▪ Ductility: Excellent ▪ Joint Strength: Good
	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 7901		
Data Sheet DSMB-0019				
Ni 13Cr 4Si 4Fe 2.7B	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 915	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on nickel-based alloys, austenitic and martensitic stainless steels, carbon steels, low alloy steels, precipitation hardened steels ▪ Exhibits high temperature tensile and creep strength; adapts to stresses resulting from phase or dimensional changes when austenizing or quenching ▪ Outstanding oxidation and corrosion resistance ▪ Solidus: Amdry 915: 960 °C (1760 °F) Amdry 9150: 977 °C (1790 °F) ▪ Liquidus: Amdry 915: 1125 °C (2060 °F) Amdry 9150: 1077 °C (1970 °F) ▪ Gap Size: Wide ▪ Viscosity: Medium-flowing ▪ Ductility: Very Good ▪ Joint Strength: Excellent
Ni 14Cr 4Si 4Fe 3B	-106 +45 µm -140 +325 mesh (AWS 140F)	Amdry 9150		
Data Sheet DSMB-0020				
Ni 23Mn 7Si 5Cu (AWS 5.8 BNi-8)	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 9300	Gas Atomized	<ul style="list-style-type: none"> ▪ For stainless steels, low carbon steels, nickel-based or cobalt-based alloys ▪ Good oxidation and corrosion resistance ▪ Useful for joining complex assemblies exposed to thermal or cyclical loading or impact; thin section components such as honeycomb assemblies, heat exchangers and small diameter wire screens ▪ Solidus: 980 °C (1800 °F) ▪ Liquidus: 1010 °C (1850 °F) ▪ Gap Size: Narrow ▪ Viscosity: Free-flowing ▪ Ductility: Excellent ▪ Joint Strength: Good
	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 9301		
	-106 +53 µm -140 +270 mesh	Amdry 9300B		
Data Sheet DSMB-0022				
Ni 14Cr 9.5Co 4.8Ti 4W 4Mo 3Al 4.5Si 0.7B	-106 +45 µm -140 +325 mesh	Amdry B-93	Gas Atomized	<ul style="list-style-type: none"> ▪ Suitable for vacuum brazing of superalloys such as Hastelloy where joint ductility is not an issue ▪ Solidus: 1095 °C (2000 °F) ▪ Liquidus: 1165 °C (2125 °F) ▪ Gap Size: Narrow ▪ Viscosity: Medium-flowing ▪ Ductility: Excellent ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 980 °C (1800 °F)

Activated Diffusion Alloys



Cobalt Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0016				
Co 22Cr 21Ni 14W 2B 2Si 0.03La	-106 +45 µm -140 +325 mesh (AWS 140C)	Amdry 788	Gas Atomized	<ul style="list-style-type: none"> ▪ For brazing and restoration of superalloys on outer air seal shrouds, blade tip rub areas, etc. ▪ Produces hard, wear-resistant joints ▪ Excellent corrosion and oxidation resistance ▪ Solidus: 1160 °C (2120 °F) ▪ Liquidus: 1240 °C (2265 °F) ▪ Gap Size: Normal ▪ Viscosity: Sluggish ▪ Ductility: Good ▪ Joint Strength: Excellent
Data Sheet DSMB-0006				
Co 24Cr 10Ni 7W 3.5Ta 2.5B 0.6C	-125 +45 µm -120 +325 mesh	Amdry MM509B-C	Gas Atomized	<ul style="list-style-type: none"> ▪ For brazing and restoration of superalloys on outer air seal shrouds, blade tip rub areas, etc. ▪ Produces hard, wear-resistant joints ▪ Excellent corrosion and oxidation resistance ▪ Blend with Amdry MM509 for wide gap capability ▪ Solidus: 1130 °C (2065 °F) ▪ Liquidus: 1165 °C (2130 °F) ▪ Gap Size: Normal ▪ Viscosity: Sluggish ▪ Ductility: Good ▪ Joint Strength: Excellent
	-45 µm -325 mesh	Amdry MM509B-F		

Nickel Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0023				
Ni 13.5Cr 9.5Co 3.7Al 2.5B	-106 +45 µm -140 +325 mesh	Amdry BRB	Gas Atomized	<ul style="list-style-type: none"> ▪ For crack healing and surface restoration on superalloy turbine engine components ▪ Blend with superalloy powders for wide gap capability ▪ Solidus: 1055 °C (1931 °F) ▪ Liquidus: 1120 °C (2048 °F) ▪ Gap Size: Wide ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent
	-45 µm -325 mesh	Amdry BRB-325		
Data Sheet DSMB-0028				
Ni 15.3Cr 10.3Co 3.5Ta 3.5Al 2.3B	-125 +45 µm -120 +325 mesh	Amdry D-15	Gas Atomized	<ul style="list-style-type: none"> ▪ Composition mimics nickel-based superalloys; results in deposit with similar physical characteristics ▪ For gas turbine engine components ▪ Solidus: 1095 °C (2000 °F) ▪ Liquidus: 1165 °C (2125 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Good

Activated Diffusion Alloys



Nickel Base

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0012				
Ni 18.5Cr 18Fe 5Cb+Ta 3Mo 2.5B 1Ti	-125 +45 µm -120 +325 mesh	Amdry 718B	Gas Atomized	<ul style="list-style-type: none"> ▪ Use on superalloys, Inconels ▪ Joints metallurgically and physically similar to Inconel 718 ▪ Solidus: 1105 °C (2020 °F) ▪ Liquidus: 1230 °C (2250 °F) ▪ Gap Size: Wide ▪ Viscosity: Sluggish ▪ Ductility: Good ▪ Joint Strength: Excellent
Data Sheet DSMB-0024				
Ni 20Cr 20Co 3Ta 3B 0.05La	-106 +45 µm -140 +325 mesh	Amdry DF-3	Gas Atomized	<ul style="list-style-type: none"> ▪ Good braze alloy match for Inconel 939, C-263, U-500, MA 754 ▪ Blend with superalloy powders for wide gap capability and thick build-ups ▪ Solidus: 1050 °C (1920 °F) ▪ Liquidus: 1120 °C (2050 °F) ▪ Gap Size: Normal ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent
	-45 µm -325 mesh	Amdry DF-3-325		
Data Sheet DSMB-0025				
Ni 14Cr 10Co 3.5Al 2.75B 2.5Ta 0.05Y	-106 +45 µm -140 +325 mesh	Amdry DF-4B	Gas Atomized	<ul style="list-style-type: none"> ▪ Ideal for restoration or repair of Rene 80, Rene 95, Inconel 738, Inconel 792 and other nickel-based precipitation alloys ▪ Diffusion heat treat for strong, tough, resilient joints ▪ Solidus: 1065 °C (1950 °F) ▪ Liquidus: 1120 °C (2050 °F) ▪ Gap Size: Wide ▪ Viscosity: Sluggish ▪ Ductility: Good ▪ Joint Strength: Excellent
Data Sheet DSMB-0027				
Ni 20Cr 3Ta 3.2B 0.03Y	-106 +45 µm -140 +325 mesh	Amdry DF-6A	Gas Atomized	<ul style="list-style-type: none"> ▪ Ideal for restoration or repair of Inconel 625, MA 754, Hastelloy X ▪ Primarily for turbine components ▪ Solidus: 1050 °C (1920 °F) ▪ Liquidus: 1160 °C (2120 °F) ▪ Gap Size: Wide ▪ Viscosity: Medium-flowing ▪ Ductility: Good ▪ Joint Strength: Excellent ▪ Service Temp.: ≤ 1093 °C (2000 °F)

Proprietary Products

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0005				
Proprietary	Proprietary	Amdry 485	Gas Atomized	<ul style="list-style-type: none"> ▪ Sold only to OEM-approved customers
		Amdry 485/509	Blended	
Data Sheet DSMB-0029				
Proprietary	Proprietary	Amdry 8249	Blended	<ul style="list-style-type: none"> ▪ Sold only to OEM-approved customers ▪ Blend 2 (other blends on request)

Activated Diffusion Alloys



Proprietary Products

CONTINUED

Chemistry	Particle Size	Product	Manufacture	Applications
Proprietary	Proprietary	Amdry 8626	Blended	<p style="text-align: right;">Data Sheet DSMB-0030</p> <ul style="list-style-type: none">▪ Sold only to OEM-approved customers▪ Blend ratio (1, 2, 3 or 4) must be specified when ordering. Product will be supplied as Amdry 8626-1, Amdry 8626-2, Amdry 8626-3 or Amdry 8626-4, as appropriate

Standard and Superalloy Filler Materials



Cobalt Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0006				
Co 24Cr 10Ni 7W 3.5Ta 0.6C SIMILAR TO MAR M-509	-125 +45 µm -120 +325 mesh	Amdry MM509-C	Gas Atomized	<ul style="list-style-type: none"> Blend with standard braze alloys to facilitate brazing of wide-gap joints May be blended with an activated diffusion braze alloy for ADB applications
	-45 +5 µm -325 mesh +5 µm	Amdry MM509		
Data Sheet DSMB-0004				
Co 25.5Cr 10.5Ni 7.5W 0.5C SIMILAR TO STELLITE 31	-125 +45 µm -120 +325 mesh	Amdry X40	Gas Atomized	<ul style="list-style-type: none"> Blend with standard braze alloys to facilitate brazing of wide-gap joints May be blended with an activated diffusion braze alloy for ADB applications

Nickel Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMTS-0062				
Ni 99.3%+	-150 +45 µm -100 +325 mesh	Metco 56VC	Precipitated	<ul style="list-style-type: none"> Pure nickel powder which may be blended with brazing materials to facilitate brazing of wide-gap joints
	-75 +45 µm -200 +325 mesh	Metco 56C-NS		
Data Sheet DSMTS-0109				
Ni 20Cr	-125 +45 µm -120 +325 mesh	Metco 5640NS	Gas Atomized	<ul style="list-style-type: none"> Blend with braze filler metals to facilitate brazing in wide-gap applications Addition of chromium enhances resistance to oxidation and corrosion
Data Sheet DSMB-0004				
Ni 21.5Cr 9Mo 3.6(Nb+Ta) 2.5Fe SIMILAR TO INCONEL 625	-90 +45 µm -170 +325 mesh	Amdry 625	Gas Atomized	<ul style="list-style-type: none"> Superalloy powders similar in composition to popular substrate materials Blend with standard braze alloys to facilitate brazing of wide-gap joints Utilized as an activated diffusion braze alloy if blended with another activated diffusion braze alloy
Ni 19Cr 18Fe 5(Nb+Ta) 3Mo 0.5Al 1Ti 0.05C SIMILAR TO INCONEL 718	-125 +45 µm -120 +325 mesh	Amdry 718		
Ni 10Co 10W 8.25Cr 5.5Al 3Ta 1.4Hf 1Ti 0.65Mo SIMILAR TO MAR M-247	-45 +5 µm -325 mesh +5 µm	Amdry 8670		
Ni 14Cr 9.5Co 5Ti 4Mo 4W 3Al 0.17C SIMILAR TO RENE 80	-125 +45 µm -120 +325 mesh	Amdry Rene 80		
Ni 12Co 7Cr 6Ta 6Al 5W 3Re 1.5Mo 1.5Hf 0.12C 0.015B SIMILAR TO RENE 142	-90 +53 µm -170 +270 mesh	Amdry Rene 142A		

Honeycomb Filler Materials



Nickel Base

Chemistry	Particle Size	Product	Manufacture	Applications
Data Sheet DSMB-0051				
Ni 20Al	-106 +45 µm -140 +325 mesh	Metco 2101ZB	Chemically Clad	<ul style="list-style-type: none"> ▪ Designed to fill the cells of gas turbine engine honeycomb seals ▪ Sintered after placement in the honeycomb ▪ Sintering forms NiAl intermetallic and hollow NiAl spheres that facilitates abrasability of the honeycomb seal
Ni 14.5Al 3.75C 0.26B 0.14Si	-45 µm -325 mesh	Metco 2110	Blended	
Ni 14Al	-106 +45 µm -140 +325 mesh	Metco 2501		

Auxiliary Supplies

Binder

Form	Viscosity	Product	VOC	Applications
Data Sheet DSMB-0031				
Water-based liquid	Medium	Amdry Binder MA60	Minimal	<ul style="list-style-type: none"> ▪ For use with braze filler metals to be brazed in vacuum or controlled atmosphere furnaces ▪ Apply using commercially available spraying equipment ▪ Bonds well to target surfaces ▪ Leaves little to no residue after brazing ▪ Boiling Point: 100 °C (212 °F) ▪ Viscosity: 275 to 350 cP

Product Index

Product	Page	Product	Page	Product	Page
Amdry 100	6	Amdry 7701	7	Amdry DF-3-325	10
Amdry 100C	6	Amdry 7703	7	Amdry DF-4B	10
Amdry 100F	6	Amdry 7801	7	Amdry DF-6A	10
Amdry 103	6	Amdry 7804	7	Amdry MM509	12
Amdry 105	7	Amdry 7901	8	Amdry MM509B-C	9
Amdry 400	6	Amdry 8249	10	Amdry MM509B-F	9
Amdry 485	10	Amdry 8626	11	Amdry MM509-C	12
Amdry 485/509	10	Amdry 8670	12	Amdry Rene 80	12
Amdry 625	12	Amdry 9150	8	Amdry Rene 142A	12
Amdry 718	12	Amdry 9300	8	Amdry X40	12
Amdry 718B	10	Amdry 9300B	8	Metco 56C-NS	12
Amdry 770	7	Amdry 9301	8	Metco 56VC	12
Amdry 775	7	Amdry B-93	8	Metco 2101ZB	13
Amdry 780	7	Amdry Binder MA60	13	Metco 2110	13
Amdry 788	9	Amdry BRB	9	Metco 2501	13
Amdry 790	8	Amdry BRB-325	9	Metco 5640NS	12
Amdry 805	6	Amdry D-15	9		
Amdry 915	8	Amdry DF-3	10		

Customer Specifications

Specification	Product	Page	Specification	Product	Page
Aeronca			GE (CONT'D)		
AIMS 7-71, Type B	Amdry 9300B	8	B50TF13, Class A and B	Metco 2101ZB	13
American Welding Society (AWS)			B50TF40, Class A	Metco 5640NS	12
AWS A5.8 BCo-1, 140F	Amdry 400	6	B50TF81, Class A	Amdry 100C	6
AWS A5.8 BNi-1a	Amdry 9150	8	B50TF108	Amdry B-93	8
AWS A5.8 BNi-2, 140C	Amdry 7701	7	B50TF142, Class A	Amdry 103	6
AWS A5.8 BNi-2, 140F	Amdry 770	7	B50TF173, Class A	Amdry D-15	9
AWS A5.8 BNi-2, 325 mesh	Amdry 7703	7	B50TF183, Class A	Amdry Rene 80	12
AWS A5.8 BNi-3, 140C	Amdry 7801	7	B50TF185, Class A	Amdry X40	12
AWS A5.8 BNi-3, 140F	Amdry 780	7	B50TF202, Class A	Amdry 718	12
AWS A5.8 BNi-3, 140F	Amdry 7804	7	B50TF203, Class A	Amdry 718B	10
AWS A5.8 BNi-4, 140F	Amdry 790	8	B50TF204, Class A	Amdry 7701	7
AWS A5.8 BNi-5, 140C	Amdry 100C	6	B50TF205, Class A	Amdry 7801	7
AWS A5.8 BNi-5, 140F	Amdry 100	6	B50TF205, Class A	Amdry 7804	7
AWS A5.8 BNi-8, 140C	Amdry 9301	8	B50TF206, Class A	Amdry 7901	8
Canada Pratt & Whitney			B50TF207, Class A	Amdry 775	7
CPW 549-2	Amdry MM509	12	P5TF2, Bradelloy 607 (mat. only)	Metco 2110	13
Chromalloy			Honeywell		
BZ003, Type 10	Amdry BRB	9	EMS 54752, Type I	Amdry 780	7
MODS 210289	Amdry Rene 142A	12	EMS 54752, Type I	Amdry 7804	7
GE			EMS 54752, Type II	Amdry 770	7
B14Y3	Amdry 100	6	EMS 54752 Type V	Amdry 100	6
B14Y3	Amdry 100C	6	EMS 54752, Type VIII	Amdry 775	7
B50A942, Class A	Amdry D-15	9	EMS 54752, Type IX	Amdry 7801	7
B50A988, Class A	Amdry MM509-C	12	EMS 54752, Type X	Amdry 7901	8
B50A988, Class B	Amdry MM509	12	EMS 54752, Type XIII	Amdry 9150	8
B50A989, Class A	Amdry MM509B-C	9	EMS 54752, Type XIV	Amdry DF-6A	10
B50A989, Class B	Amdry MM509B-F	9	EMS 54752, Type XV	Amdry DF-6A	10
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Customer Specifications

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MTS 1376	Amdry 718	12	MSRR 9500/724	Amdry DF-4B	10
MTS 1391	Amdry BRB	9	MSRR 9500/730	Amdry 103	6
MTS 1438	Amdry 625	12	MSRR 9513	Metco 56C-NS	12
MTS 1523-1	Amdry 788	9	MSRR 9570	Metco 2501	13
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FCMS-040	Amdry 780	7	AMS 4776, 140F	Amdry 9150	8
FCMS-040	Amdry 7804	7	AMS 4777, 140C	Amdry 7701	7
FCMS-041	Amdry 790	8	AMS 4777, 140F	Amdry 770	7
NOV Wellbore Technologies			AMS 4777, 325 mesh	Amdry 7703	7
DMS 5505	Amdry 780	7	AMS 4778, 140C	Amdry 7801	7
DMS 5505	Amdry 7804	7	AMS 4778, 140F	Amdry 780	7
Pratt & Whitney			AMS 4778, 140F	Amdry 7804	7
PWA 996	Amdry 915	8	AMS 4779, 140C	Amdry 7901	8
PWA 1185, Blend 1	Amdry 485/509	10	AMS 4779, 140F	Amdry 790	8
PWA 1185-1	Amdry 485	10	AMS 4782 (45 µm)	Amdry 100F	6
PWA 1185-2	Amdry MM509	12	AMS 4782, 140C	Amdry 100C	6
PWA 1186-1	Amdry 400	6	AMS 4782, 140F	Amdry 100	6
PWA 36117, Blend 2	Amdry 8249	10	AMS 4783, 140F	Amdry 400	6
PWA 36117-2	Amdry 8670	12	AMS 5832	Amdry 718	12
PWA 36119, Blend 1, 2, 3 or 4	Amdry 8626	11	Snecma		
PWA 36962	Amdry 775	7	PrEN 3927	Amdry 7804	7
Rolls-Royce			PrEN 3928 (Tape)	Amdry 7804	7
EMS 56650	Amdry 400	6	Solar Turbines		
MSRR 9500/97	Amdry 770	7	ES9-264	Amdry 915	8
MSRR 9500/97	Amdry 7701	7	Turbine Airfoil Coating and Repair		
MSRR 9500/97T (Tape)	Amdry 770	7	MS 1062	Amdry 9150	8
MSRR 9500/114	Amdry 780	7	MS 1064	Amdry 100	6
MSRR 9500/114	Amdry 7801	7	MS 1068	Amdry MM509	12
MSRR 9500/114	Amdry 7804	7	MS 1085	Amdry D-15	9
MSRR 9500/114T (Tape)	Amdry 780	7	MS 1086	Amdry Rene 80	12
MSRR 9500/116	Amdry 100	6	MS 1087	Amdry X40	12
MSRR 9500/116T (Tape)	Amdry 100	6	MS 1088	Amdry 718	12
MSRR 9500/116	Amdry 100C	6	MS 1089	Amdry 718B	10
MSRR 9500/116T (Tape)	Amdry 100C	6	MS 1090	Amdry 775	7
MSRR 9500/116	Amdry 100F	6	MS 1112	Amdry 400	6
MSRR 9500/116T (Tape)	Amdry 100F	6	MS 2033	Amdry DF-3-325	10
MSRR 9500/700	Amdry 790	8	UTC Aerospace Systems		
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MSRR 9500/700T (Tape)	Amdry 790	8			
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