

Material Product Data Sheet

Amdry 8626 Diffusion Braze Alloy Blend

Products:

Amdry 8626 (Powder, Paste and Tape)

1 Introduction

Amdry™ 8626 is a spheroidal, inert gas-atomized diffusion brazing alloy blend. The powder is manufactured to meet Pratt & Whitney proprietary specification PWA 36119, as a blend of PWA 36117-1 and PWA 36119-1 in specified ratios.

Amdry 8626 is a controlled product that is only available to customers who have been qualified and approved to purchase this product by Pratt & Whitney.

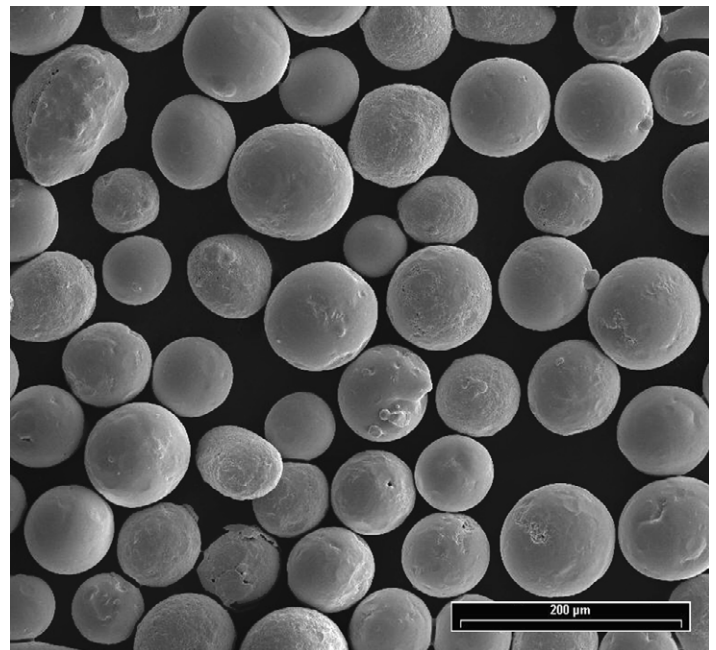
Amdry 8626 contains boron as a readily diffusible melt suppressant. The diffusion of the boron works to raise the remelt temperature of the braze deposit, which allows for the higher service temperatures that make Amdry 8626 a good choice for repairs on turbine components.

1.1 Typical Use and Applications

- Base metals such as MM247, CMSX-4, Rene N5 and Rene N6 can be brazed with Amdry 8626.
- Use Amdry 8626 to repair cracks, restore worn or damaged areas, restore detail areas and repair mis-machined turbine components.
- Cracks (gaps) from 0.38 – 1.5 mm (0.015 – 0.060 in) are repairable using Amdry 8626.

Quick Facts

Classification	Nickel-based alloy blend
Chemical formula	Proprietary blend
Manufacture	Gas Atomization
Morphology	Spheroidal
Purpose	Repair and restoration
Process	Diffusion brazing
Viscosity	Sluggish



SEM of typical gas atomized braze filler metal powder particles

2 Material Information

2.1 Blend Ratios and Particle Size Distribution

Product	Blend Composition by Weight Percent (per PWA 36119)		Particle Size Distribution
	Amdry 482 (PWA 36117-1)	Amdry 8625 (PWA 36119-1)	
Amdry 8626	20 – 50	50 – 80	Proprietary

Note: The exact ratio of Amdry 482 to Amdry 8625 is defined by the blend chosen from the PWA 36119 specification, e.g., Blend 1, 2, 3 or 4.

2.2 Key Selection Criteria

- Choose the ratio and product form that meets the specification, drawing and/or purchase order requirements of Pratt & Whitney.
- Amdry 8626 is available as powder, paste, tape or preforms. Please see the Commercial Section of this document and Materials Product Datasheets DSMB-0001 (paste) or DSMB-0002 (tape and preforms) for additional information.
- Amdry 482 and Amdry 8625 are also sold as separate products, to be used in specialized blends or as deemed appropriate by Pratt & Whitney to meet specific requirements.
- Amdry 8249 is a pre-blended, nickel-based product of Amdry 482 and Amdry 8670 that meets the Pratt & Whitney PWA 36117 specification.
- Amdry 485/509 is a pre-blended, cobalt-based product of Amdry 485 and Amdry 8626 that meets the Pratt & Whitney PWA 1185 specification.

2.3 Related Products

- Before considering an alternative product, review product compliance to any required specifications and drawings.

2.4 Customer Specifications

Amdry 8626	Pratt Whitney PWA 36119 (specify Blend 1, 2, 3 or 4)
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3 Braze Processing Information

3.1 Key Processing Information

Substrate preparation	Clean and dry, free of oxides and organic contaminants.
Flux requirements	None
Recommended atmosphere	Vacuum
Other atmospheres	None
Melting range	Refer to PWA processing requirements
Braze range	Refer to PWA processing requirements
Viscosity	Sluggish
Recommended gap size	0.38 – 1.5 mm 0.015 – 0.060 in

3.2 Key Braze Joint Information

Joint strength	Excellent
Joint ductility	Very Good
Corrosion resistance	Excellent
Oxidation resistance	Excellent

3.3 Rebrazing

During the braze cycle, the braze filler metal interacts metallurgically with the substrate to alter the braze alloy's

chemical composition, resulting in an increased remelt temperature. The new melting temperature cannot be accurately predicted; therefore, each particular application must be investigated for variation. If a rebraze operation is designed as part of the original manufacturing process, or as a repair operation, it is important to determine the rebraze temperature. To ensure minimal effects on the original braze joint, it is best to braze at the upper limit of the braze range for the maximum time the part can withstand. It is then recommended that subsequent cycles be performed below the original braze temperature.

4 Commercial Information

4.1 Ordering Information and Availability

Amdry 8626 is only available to customers approved by Pratt & Whitney.

Product	Form	Order No.	Package Size	Availability	Distribution
Amdry 8626 ^a	Powder (Blend 2)	1030092	10 lb (approx. 4.5 kg)	Special Order	Global
	Powder (Blend 4)	1061149	10 lb (approx. 4.5 kg)	Special Order	Global
	Paste (Blend 2)	1041223	3.5 oz (approx. 100 g) syringe	Special Order	Global
	Paste (Blend 4)	1041224	3.5 oz (approx. 100 g) syringe	Special Order	Global
	Tape	1071593 ^b	Roll	Special Order	Global

^a Blend ratio (1, 2, 3 or 4) must be supplied for a quotation; product will be supplied as Amdry 8626-1, Amdry 8626-2, Amdry 8626-3, Amdry 8626-4, as appropriate.

^b Specify Amdry 8626 as well as the blend ratio, tape width, thickness and length

Other product forms and packaging combinations are available on a special order basis. Braze paste, customized braze tape and preforms are available to meet specific customer requirements. Please contact your local Oerlikon Metco sales office or account representative for additional information.

4.2 Handling Recommendations

- Store in the original, closed container in a dry location.
- Tumble contents prior to use to prevent segregation.

4.3 Safety Recommendations

See the SDS (Safety Data Sheet) for the product form and in the localized version applicable to the country where the material will be used. SDS are available from the Oerlikon web site at www.oerlikon.com/metco (Resources – Safety Data Sheets).

Product	SDS No.
Amdry 8626 CNT Paste, Blend 2	50-995
Amdry 8626 CNT Paste, Blend 4	50-1102
Amdry 8626 Tape, Blend 2	50-1123

Information is subject to change without prior notice.