



PRECIOUS METAL PRODUCTS FOR THE JEWELLERY INDUSTRY

Precious Metal Services Technical Data

925AG

Data Sheet # PMS1112AG

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925 OXIDE RESISTANT SILVER | FABRICATION - CASTING

Colour – White

Density – 10.30gm/cm

Liquidus - 899°C

Solidus - 778°C

Mechanical Properties

PROPERTIES TEST	AS CAST	RECRYSTALLISING ANNEAL	WORK HARDENED 20%	WORK HARDENED 40%	WORK HARDENED 60%	AGE HARDENED @ 300°C for 1 hr
HARDNESS - HV	55	68	105	123	132	135
TENSILE STRENGTH - N/MM	-	308	-	-	-	-
YIELD STRENGTH - N/MM	-	154	-	-	-	-
FRACTURE ELONGATION - %	-	23	-	-	-	-

Annealing Properties

TECHNIQUE	TEMPERATURE °C	ANNEALING TIME	HOLDING TIME	QUENCHING MEDIUM	ATMOSPHERE
KILN	700	15 MIN	-	WATER	PROTECTIVE GAS
TORCH	DARK RED to CHERRY RED	-	-	WATER	-

Casting Properties*

INVESTMENT TYPE	FLASK TEMPERATURE °C	CASTING TEMPERATURE °C	HOLD BEFORE QUENCH	ATMOSPHERE	EQUIPMENT
GYPSUM BONDED	600 - 700	960 - 1000	< 5 MIN	PROTECTIVE GAS	STATIC VACUUM

* THE CASTING PROPERTIES ARE PROVIDED AS A GUIDE ONLY AND ARE NOT INTENDED TO BE DEFINITIVE. ALL CASTINGS REQUIRE THE OPERATOR TO OBSERVE AND RECORD THE CASTING PARAMETERS THAT PROVIDE THEM WITH THE OPTIMUM RESULTS.

PETER W BECK PTY LTD

14 Duncan Court, Ottoway Park, South Australia 5013 Telephone +61 8 8440 3399 Toll Free 1800 888 590 Fax +61 8 8447 1144

Email preciousmetals@pwbeck.com.au www.pwbeck.com.au

A.B.N 37 008 011 550

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Availability

Fabrication: 925AG available in 4.50mm (Fully Annealed) or 6.00mm (Fully Annealed) Standard Gauge Wire. Round, Square, Oval and Half Round as well as Strip (all Half Hard) and Sheet (Fully Annealed) are also available.

Casting: 925AG1C Available in Granule form and our custom casting service is available for this alloy.

Benefits

925AG is an alternative to traditional Sterling Silver. The principle benefit is the ability of the alloy to resist the formation of Copper oxides or Firescale. A brilliant Silver-white colour and very good mechanical properties add to the appeal.



Working Properties

Similar working characteristics to Sterling Silver mean that no special training or allowances are required. The alloy is easy to cold work and can accept considerable deformation, in excess of 70%, before annealing is required. Extra Easy, Easy and Medium Solder for Sterling Silver can be used and they provide a good colour match. 925AG can be cast, wrought, soldered and finished using traditional equipment and techniques.

925AG and 925AG1C both respond well to age hardening through heat treatment. Heating under a controlled atmosphere to 300°C for 1 hour and quenching into water will provide optimum results. The Investment Casting variant, 925AG1C, is limited to vacuum casting only. The casting alloy possesses the same properties as the fabrication alloy; therefore castings can be sized or further fabricated as required without incident.



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Cautions

Although it may be possible to use Sterling Silver Hard Solder for 925AG and 925AG1C it has a flow temperature close to the melting range of both alloys and therefore Medium Solder and below should be used wherever possible.

Re-using

Clean scraps can be remelted and reworked successfully, as a general rule, remove all traces of any oils etc. used during fabrication. Filings can contaminate the melt and render it unusable; therefore we suggest you include filings with your Lemel for refining. We offer a rework service for most metals, *conditions apply (*contact PMS Customer Service for details). Please note that the oxide resistance and mechanical properties may decrease with each successive remelt.

Refining

We refine all common precious metals and oxide resistant Silver poses no particular problem. We would encourage you to keep large amounts of Silver scrap separate from your Gold and Platinum group scraps wherever possible to keep your refining charges to a minimum.

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Peter W Beck Pty Ltd take no responsibility for any personal harm or injuries which may occur as a result of following procedures or failing to heed warnings given in this Data Sheet.

At Peter W Beck Pty Ltd we are continuously developing and improving our product range, as a consequence we reserve the right to alter product specifications without notice.

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