Alloy Specification Sheet

14Kt VANILLA WHITE, 18Kt VANILLA WHITE & 18Kt TRADVAN WHITE

14Kt VANILLA WHITE. 18Kt VANILLA WHITE and 18Kt TRADITIONAL WHITE are four nine's pure, not recycled. Argen's gold is grain refined with iridium which improves the strength, ductility and surface finish of the alloy producing less porosity and cracking.
14Kt VANILLA WHITE and 18Kt TRADITIONAL WHITE are Argen's only gold which contains silicon.

COMPOSITION

	Gold	Copper	Nickel	Zinc	Iridium	Silicon
14Kt VAN	58.5%	X	X	X	–	X
18Kt VAN	75%	X	X	X	X	–
18Kt TR VAN	75%	X	X	X	–	X

"X" denotes undisclosed percentage.

PHYSICAL PROPERTIES

	Melting Point	Casting Temperature	Flask °C	Flask °F
14Kt VAN	1010°C	1080°C	510 - 540°C	950 - 1000°F
18Kt VAN	1010°C	1030°C	500 - 520°C	930 - 970°F
18Kt TR VAN	940°C	1020°C	480 - 510°C	900 - 950°C

INSTRUCTIONS FOR USE

DESIGNING When designing articles, the following information may prevent casting problems: (1) round-off ends of notches or tips since sharp and acute angles can break off when casting; (2) avoid alternating thick and thin cross sections which may result in porosity; (3) the point of "x" type intersections will tend to cause turbulence and/or have porosity; and (4) fine wire, thin edges and points are difficult to fill and can cause overheating the metal.

INVESTING Flask temperature and casting method can vary depending on piece size and design. Listed are guidelines based on size and metal: 1) smaller pieces and pieces with great detail require high flask temperatures; (2) large pieces and pieces with few details require a lower flask temperature, 800°F-1000°F; (3) large and small pieces on a single tree require flask temperatures closer to those needed for light pieces; (4) white golds generally require flask temperatures on the high end of the recommendation; and (5) centrifugal casting tends to have flask temperatures on the lower end of the recommendations.

CASTING Based on the various casting methods, the following temperatures are recommended for: vacuum assist casting 100°F-200°F over melt temperature and centrifugal/sling casting 50°F-100°F over melt temperature. Please note that pieces with less detail require lower superheats. **To ensure metal is completely molten, hold casting temperature for 20-30 seconds before pouring**.

QUENCH TIME Quench time can vary based on flask size used. When the "red button" or "red color" disappears, then quench. This will avoid thermal cracking.

BREAKOUT Breakout should not be rushed. Place flask in shaded area, quench when red glow is no longer visible on the bottom. Clean investment off thoroughly. Investment in the melt will cause porosity problems. When breaking out dry by hammering, it is recommended that the flask temperature is below 600°F to reduce potential cracking.

PICKLING/ CLEANING Any typical investment remover should be use. Avoid solutions containing chlorides or bromides. Use proper safety; gloves and goggles should be worn.

FABRICATION The metal should be cleaned of all adhering oxide or fluxes before rolling. The ingot should be rolled or drawnto a 50% reduction in size before annealing. Too small of a reduction can cause the ingot to crack during annealing. After annealing continue the reduction at 50% before annealing again. Clean the ingot after each anneal in hot pickle solution. Keep the rolls, dies and metal clean to prevent defects in the finished stock.

ANNEALING Annealing temperature 730°C/1350°F for 20 minutes. Do not quench ingot, allow ingot to air cool. A boric acid fire coat should be applied before annealing in an open atmosphere oven to protect the metal from heavy oxidation. Clean the ingot in hot pickle solution to remove surface oxidation after annealing.

REUSABILITY 3 times: 70% new and 30% old.

SOLDERING Use 14Kt WHITE SOLDER
Use 18Kt WHITE SOLDER

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