UNITED® PRECIOUS METAL REFINING, INC.

UNITED SILVER SOLDER MASTER ALLOYS # SSA

FOR USAGE IN SOLDERING STERLING SILVER JEWELRY.

United solder master alloys are formulated to be used in the manufacture of sterling silver solders of different flow characteristics ranging from Extra Easy Flow to Extra Hard Flow.

MIXING :

Flow	Extra Soft	Soft	Medium	Hard	Extra Hard
Fine Silver	45%	65%	70%	75%	80%
Solder Alloy	55%	35%	30%	25%	20%

Sterling Silver solder master alloys are formulated for melting point, not ease of fabrication. The easier flow solder will work harden very quickly during the rolling process. Much smaller reduction rates need to be used on Extra Soft, Soft and Medium Sterling solders. More frequent anneals will be needed on easier flow Sterling silver solder alloys.

MELTING : The United solder master alloys and fine silver should be melted together in a clean crucible. Put alloy in the bottom of the crucible and fine silver on top. Initial melting temperature should be 700°- 838°C/ 1,292°- 1,540°F depending on the type of solder you are making. Do not overheat the metal. Boric acid flux may be used to keep the metal clean during the melting process. The metal should be mixed well with a stirring rod before pouring to assure a good mix.

POURING TEMPERATURE FOR INGOTS : 700 °- 838°C./ 1,292 °- 1,540°F depending on type of solder being made.

POURING : Metal should be poured into a preheated, vertical, lightly lubricated, 2 piece, L shaped mold with a 1/8 inch opening A steady even pouring motion should be used slowing at the end of the pour to prevent shrinkage in the top of the ingot.

QUENCHING : The metal ingot should be removed from the mold and quenched immediately in pickle solution or water.

FABRICATION : The metal ingot should be cleaned of all adhering oxide or fluxes before rolling. The ingot should be rolled to a 10% - 15% reduction in thickness with solder made for extra easy, easy and medium solders. Reduce to 25% - 30% on the medium and hard and extra hard flow solders before annealing. After annealing continue the rolling procedure at the given reduction rates. Clean the ingot after each anneal. Keep rolls, dies and metal clean to prevent defects in the finished stock. Ideal thickness for use in soldering is 0.010 inches thick. The sheet can be cut in small pieces suitable for use. We suggest that you mark the pieces with the correct flow characteristics to avoid mix ups.

ANNEALING : Annealing temperature 250°- 400°C/ 500°- 750°F for 20 minutes. Be careful handing the silver solder ingots when hot, as they can be fragile. Air-cool the ingots for a minutes before quenching in water or pickle solution.

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