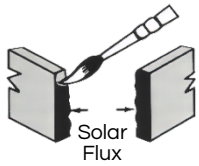
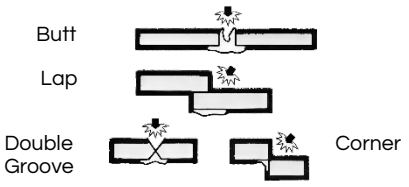
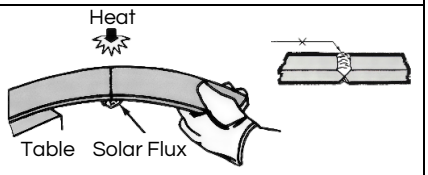
Instructions for Using Solar Flux

1. Remove grease Solar Flux will remove the dirt and oxides, but grease should be cleaned off with a solvent or vapor degreaser.	
2. Mix Solar Flux with alcohol (methanol preferred) Measure out only enough Solar Flux for one day's production; recap Solar Flux container tightly. Stir in the alcohol – methanol is preferred – to form a thin paste about the consistency of thick cream. (If methanol is unavailable, the preference is for pure alcohol that contains no other ingredients or additives.)	
3. Permit mixture to stand Allow several minutes for chemical reaction to take place between the Solar Flux and the alcohol. Add alcohol to maintain consistency if mixture thickens during work, but do not remix paste that has dried out.	
4. Apply Solar Flux to joint before tacking A light coat of Solar Flux between the edges of the joint will prevent the formation and inclusion of oxides produced by the tack welds. Apply with a brush, roller, or stick. Tacking or welding can be started immediately after fluxing, or parts can be fluxed several days in advance.	
5. Apply to back side before welding A good, even coat of Solar Flux will protect the back side from oxidation, ensuring proper penetration and easier welding. (Note: For oxyacetylene welding of high nickel superalloys, apply Type I Solar Flux to **both** the front and back sides.) Before making the first pass on beveled joints that must be welded from both sides, apply Solar Flux to opposite side; merely wire brush the seam before making the second weld.	
6. Welds easily Solar Flux will prevent oxidation of the underside, eliminate oxide contamination of the weld, and support the molten weld metal. Slightly more heat can be used, if desired, to obtain deeper penetration. Use no backing bar; suspend or support work so that the Solar Flux is not in contact with the table.	

Removing the Residue

SOLAR FLUX is chemically inert in its refractory state after welding. The thin glass-like residue adheres tenaciously to the base metal and NEED NOT BE REMOVED except (a) where there is danger of contamination as a result of contact with food or beverages; (b) where the welded parts will operate in service at temperatures above 1,000 °F in an oxidizing atmosphere; or (c) where aesthetic considerations or fit-up with mating parts require a clean weld surface.

In those cases where removal is necessary, the flux residue is removed most frequently by grinding, chipping, or sandblasting. If this is not possible, or where parts are thin or might suffer from such methods, any one of several pickling baths of different formulae will remove the residue effectively. One recommended hot pickling bath (160° to 170°F) requiring immersion for 6-7 minutes is composed of nitric and hydrofluoric acid (10% and 4% by volume, respectively, balance water). Another solution, which requires longer immersion and more careful control of ingredients, consists of 10% by weight ferric sulphate, 3% by volume hydrofluoric acid, balance water, at 180°F.

NOTE: None of the pickling solutions noted can be used on mild steel or alloys containing less than16% chromium and 8% nickel.