



# INSTRUCTIONS FOR SOLVENT WELDING AND INSTALLATION OF SEMI-RIGID PLASTIC CONDUIT AND FITTINGS

UGS

REVISION

DATE: 11/17/03

New Format

REVISION:

DATE: 11/17/03

APPROVAL: *John Sevey*

All plastic conduit and fittings to be joined should be exposed to the same temperature conditions for a reasonable length of time before assembly.

### SOLVENT WELDING

Make certain that all foreign matter has been wiped from both the conduit and fitting (at joint). The conduit should not be inserted over halfway into the fitting to make a good interference solvent weld. Apply a liberal and uniform coat of cement to the mating zone of the fitting and conduit. Work fast! Slip conduit straight into the fitting with a slight twist until it bottoms. Hold the joint for 15 seconds (one minute in extreme cold weather) so that the conduit does not push out of the fitting. Do not twist or drive pipe after insertion is complete. The joined members shall be cured for five minutes or more before they are handled. (In cold or damp weather, this interval should be increased to allow for the slower evaporation of the solvent.) Minimum trench widths may be utilized by assembling conduit above ground (allowing for weld cure period) and lowering the preassembled duct bank into the trench.

Be sure to wipe off the excess solvent that is left on the, outer shoulder of the fitting. Care should be exercised to prevent excess solvent from being forced into the fitting at the inside shoulder of the conduit. Plastic bristle brushes should not be used. (The solvent will dissolve the bristles.) A large brush should be used with the maximum size permitted to be the width of the fitting socket. Cans of solvent should be kept covered and away from excess heat and flames when not in use. Quart cans are generally the largest practical size to use since the solvent dries rapidly. Use only solvent cement as furnished or recommended by the conduit manufacturer. Solvent cement thinner maybe used for thinning cement, which has thickened.

### CUTTING CONDUIT

Use a hacksaw to cut conduit less than two inches in diameter. A fine-tooth wood saw should be used on conduit above two inches in diameter. The conduit must be cut straight and cleaned of burrs.

### BENDS AND SWEEPS

In cases where a joint is made with the union under stress due to misalignment, bends, or other factors, the joint must be held rigid in such a manner as to relieve the stress on the joint until the conduit is backfilled or encased.

### GENERAL DUCT BANK REQUIREMENTS

For general installation and duct bank requirements, see UGS-100.1 and UGS-125.

### EXPANSION AND CONTRACTION

Due to expansion and contraction of plastic conduit (one and one-half inches per 100 feet for every 20° F change in temperature), the following precautions should be taken:

- A. Allow extra conduit lengths at each tie-in for contraction or expansion.
- B. Backfill from center of trench both ways or from one tie-in point toward the other end of the trench.
- C. Conduit may be cut to correct length for tie-in after backfill is complete and contraction (or expansion.) has stabilized. All conduit tie-ins entering manhole, vault, or pull box walls shall be grouted into place and concrete encased for a distance of 12 to 15 inches outside the walls.

### HANDLING

To minimize accidental mechanical damage, conduit should not be left exposed in an open trench longer than is absolutely necessary. In transporting long lengths of conduit, provision should be made to support the full length to avoid damage due to excessive overhang. Conduit that is to be stored in excess of two weeks prior to installation shall be protected from the sun. Protection may consist of tarps or other opaque coverings. Conduits shall not be stacked in excess of 42" inches for storage if storage is to exceed two weeks duration.

### INSPECTION

All plastic conduit shall be tested by the City of Riverside Public Utilities Inspector. Underground Inspector shall pick up random samples (five-foot lengths) of conduit from Department jobs. Conduit found to be defective shall not be acceptable. (See City of Riverside Public Utilities Specification No. 152 for Semi-Rigid Plastic Conduit).