INSTALLATION INSTRUCTIONS FOR EXPANDED FEP/PFA ROLL COVERS

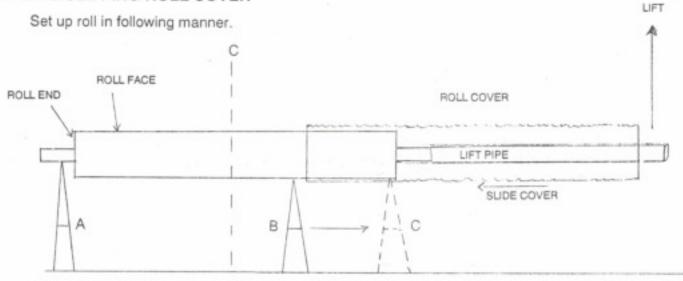
PREPARATION

Surface of roll MUST be smooth, clean, and dry. Burrs, nicks, etc. (i.e., outward projecting imperfections) must be removed. Clean all oil, grease, and petrochemicals from roll surface with a non-petroleum solvent such as alcohol, chlorethene, acetone, etc. Blow off all dirt, lint, chips, etc. Tape roll ends and journals.

NOTE: METAL rolls (except chrome – which cannot be epoxy bonded) should be preheated to 120°-130°F and wiped clean with solvent to remove machining oils. This may have to be done several times since ALL oils MUST be removed.

NOTE: Silicon rubber cannot be bonded. ALL others can.

SET UP & SLIPPING ROLL COVER



Lift pipe should fit journal shaft fairly snuggly (.025" clearance) and be approximately 3/4 length of roll. Cover pipe with clean plastic or paper. Slide cover over pipe and up onto roll. Lift on pipe and remove stand "B." Slide cover all the way onto roll. Set roll down on weil padded "C" stand (remove all slack from roll cover to prevent creases). Remove lift pipe. Heavy rolls with small journal shafts will require special rigging techniques.

PRE-SHRINK PRELIMINARIES

After setting roll (with cover) in lathe or roll stands, take open paper towel and wipe over roll face to FEEL for contamination under roll cover. If anything is detected, try blowing an air stream under the roll cover to blow out particles. Feel down again. Make sure NO contamination is present. Obtain heat guns capable of producing 500°F-750°F.

SHRINKING

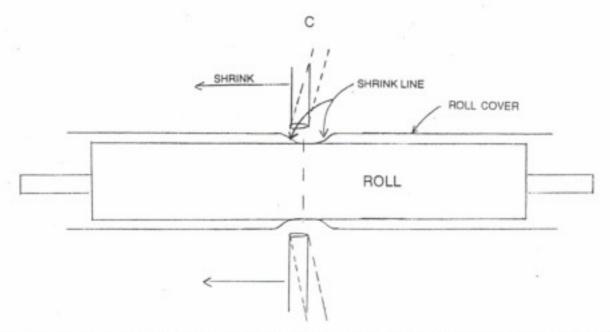
NON-BONDED ROLL COVERS

Center cover over roll (i.e., equal amounts hanging over each end). Start in center using following guidelines.

 $1" \varnothing - 4" \varnothing = 1$ Heat Gun $4" \varnothing - 6" \varnothing = 2$ Heat Guns $6" \varnothing - 10" \varnothing = 3$ Heat Guns $10" \varnothing - 20" \varnothing = 4$ Heat Guns $20" \varnothing \& Above = 6$ Heat Guns

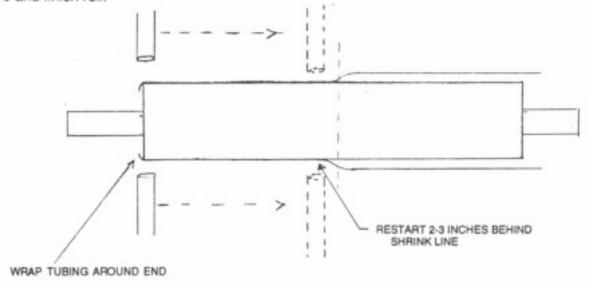
Rotate roll at 6-8 RPM. Bring heat guns to bear on tubing (all nozzels must be in stratilght line (plane) through roll) at 1-1/2 - 2" away from roll face. Wait until you obtain shrink line (i.e., a shrunk portion of tubing then

proceed right or left, keeping nozzles either 1/2 way up shrink line or slightly behind shrink line. DO NOT CROSS SHRINK LINE. Nozzles should be positioned at 90° to roll or SLIGHTLY AHEAD.



Proceed WITH shrink line to roll end. Each roll cover will differ as to shrink speed. Shrink over end.

When "RE-STARTING" center, start 2-3" behind shrink line to allow all components to heat up. Proceed as above and finish roll.



NOTE: Never apply heat to a NON-ROTATING roll! If WRINKLES develop during shrinkage, they must be REMOVED IMMEDIATELY.

Stop shrinking, warm up area with one (1) heat gun (keep it moving) and PUSH wrinkle AROUND (not down) roll with a rubber squeegee (1/2" neoprene 4"x4"). Restart roll cover 2-3" behind shrink line and proceed as above.

2) BONDED (ETCHED) ROLL COVERS

These must be shrunk end to end. Bonded covers are much more difficult and should only be installed by experienced personnel. As covers become larger in diameter and length, difficulty increases dramatically.