

## PREPARATION CHECKLIST as of 9/1/2002

### I. Handling

All construction personnel involved in load/unloading or material handling at the job site should be instructed to handle Permalok Steel Casing Pipe in the following way. Remember, Permalok connectors are precision machined parts and should be handled as such (gently):

- Check shipment first for receipt of a push ring and RTV silicone tube(s).
- Prior to unloading Permalok casing, carefully inspect each piece visually and note any damage or abnormalities on the carriers bill of lading.
- Do not hook the Permalok ends of the casing, unless using the special hooks supplied by Permalok. Instead, use wrap-around straps. Lifting lugs can be supplied upon request.
- Use dunnage (or 4'x4's) to stage pieces of Permalok Pipe. Do not lay the pipe on the ground. (One end will always hit the ground first and may cause damage.) Do not bump the ends of Permalok Pipe.
- When placing pieces of Permalok Casing in the launch shaft, it is suggested that the push ring be placed on the female end after the pipe has been lowered into position.
- If the Permalok Pipe has end protectors, they should not be removed until the day the pipe will be used.

### II. Launch Shaft of Pit Preparation

- Your trenchless excavation equipment will be needed to mate the Permalok Connectors and will need to provide sufficient compression force to complete the joint.  
Example: 24", Class .3 Permalok will require approximately

10 to 20 tons (20,000 – 40,000 lbs.) of compressive force to complete the connection.

- Preparations must be made to restrain or hold the previously installed casing in order to prevent movement while the jacking forces are applied to mate the first few connectors. Consult your Permalok Sales Representative for details and suggestions. A good solid restraint is necessary for quick connections.
- Your Permalok Casing will come with a push ring, usually male, unless otherwise requested. It will be the same diameter as the Permalok Casing Pipe. Be sure the length of the push ring is accounted for in your plan. It will add approximately 3” to 4” to your casing length.
- If you are pipe ramming, an additional 12” reinforcing section will be installed on the Permalok push ring. A variety of lead edge reinforcements is available upon request.
- The reinforced Permalok push ring will be mounted to the pipe ramming tool in one of several ways, depending on the make and model of hammer. In all cases the combination of hammer and push ring should be mounted to the casing with chain and strap rigging that is sufficient to pull the push ring in tight to the female Permalok end, so as not to allow any movement or vibrating during ramming operation. Any movement could weaken the connection and result in loss of ramming energy.
- When stabbing Permalok Pipe, remember, steel pipe is a flexible pipe and should be stabbed from top to bottom or bottom to top, not straight ahead; see the illustration below or contact Permalok for further explanation.

### III. End Preparation and Mating Procedure

- Each end (male and female) is shipped for the factory with a (wax like) protective coating which will protect the

machined surfaces from corrosion in most outdoor conditions for several weeks. This protective film must be removed prior to mating the Permalok connections. This is done using a petroleum based solvent.

- Prepare ends by cleaning with firm bristle or wire brush and petroleum based solvent. Wipe clean and dry with shop towel or rag. The machined surface must be dry, clean, smooth and free of rust or weld spatter.
- Prior to application of RTV Silicone Sealant, please read label carefully. Note curing time of 5 to 10 minutes and make sure not to allow uncured silicone to contact skin or eyes.
- Apply RTV Silicone to distal end of male and female connectors, making sure that a continuous bead of silicone encircles the circumference. Spreading or tooling the silicone is optional. Align pipe straight and mate the connectors.
- After joint is mated most of the silicone will be squeezed out of the joint, some inside, some outside. There is no need to wait for silicone to cure, you may begin installation immediately. It is good practice to check the joint for complete closure all the way around the circumference.