

INSTALLATION METHODS

Underground Installation Procedures

The physical properties of cast iron soil pipe make it the best DWV material for underground installation.

Two keys for proper installation are trench preparation and backfilling.

The trench should be wide enough to assemble the joints. Total load on the pipe includes both earth load and the truck load. Safety procedures in trenching should be observed, including provisions to avoid collapse of the trench wall.

The trench bottom should be stable enough to support the complete barrel of the pipe. If possible the barrel should rest on even and undisturbed soil. Holes should be provided at each joint for the hub or coupling to allow for continuous support of the barrel along the trench bottom. If ditch must be excavated deeper than the depth of the drainage pipe, place and tamp backfill material to provide uniform support for the pipe.

Many times in the installation of underground soil pipe it is necessary to change the direction of the line. Cast iron soil pipe will allow this through deflection in the joints. Maximum deflections should not exceed $\frac{1}{2}$ inch per foot of pipe. This will allow 5 inches of deflection for a 10 foot piece of soil pipe and 2 $\frac{1}{2}$ inches for 5 foot pipe. For changes in deflection greater than these deflections an appropriate fitting should be used.

Once installation is complete, the underground section is ready for testing. After testing is completed the trench can be properly backfilled.

Installers should always consider local conditions, codes, manufacturer instructions, and architect/engineer instructions in any installation.



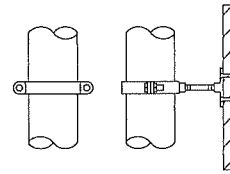
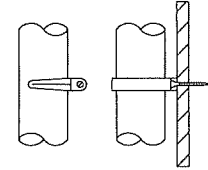
INSTALLATION METHODS

Above Ground Installation Procedures

The following procedures are general guidelines only. Specific installation instructions and techniques may be called for as result of applicable plumbing and other building codes and regulations or engineering specifications and instructions.

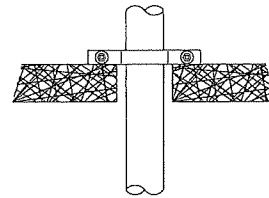
VERTICAL PIPING

- 1) Secure vertical piping at intervals sufficiently close to keep the pipe in alignment and to support the weight of the pipe and its contents. Support stacks at their bases and at sufficient floor intervals to meet the requirements of local codes. Approved metal clamps or hangers shall be used for this purpose.
- 2) If vertical piping is to stand free of any support or if no structural element is available for support and stability during construction, secure the piping in its proper position by means of adequate stakes or braces fastened to the pipe.



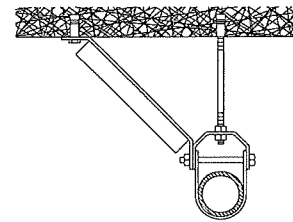
VERTICAL PIPING ATTACHMENTS / FITTINGS

- 1) Vertical piping shall be secured at sufficiently close intervals to keep the pipe in alignment and carry the weight of the pipe and contents. Stacks shall be supported at their bases and if over two stories in height at each floor by approved floor clamps. At vertical pipe risers, whenever possible, support the weight of the riser at the point or points above the centre of gravity of the riser. Provide lateral guides at the top and bottom of the riser, and at intermediate points not to exceed 30'-0" on centre.



Traverse bracing

40'-0" o.c. maximum spacing unless otherwise noted. One pipe section may act as a longitudinal bracing for the pipe section connected perpendicular to it, if the bracing is installed within 24" of the elbow or tee of similar size.



Longitudinal bracing

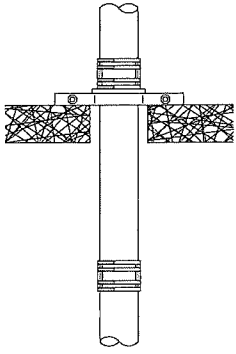
80'-0" o.c. maximum spacing unless otherwise noted.

Miscellaneous

Provide large enough pipe sleeves through walls or floors to allow for anticipated differential movements.

BIBBY RISER FITTINGS

Riser Fittings Installation



- 1) Riser Fitting must be installed with a riser clamp attached to it. The riser clamp will hold the Riser Fitting and maintain the drain stack in place. A flexible fire suppressant caulking material should be applied between the concrete slab hole and the Riser Fitting to allow for some movement.
- 2) Under normal conditions, a Riser Fitting should be installed at every second floor, with an unsupported stack not exceeding 25 feet.
- 3) Riser clamp should be engineered in accordance with the load imposed by the unsupported length of stack above it.

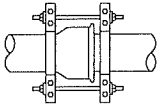
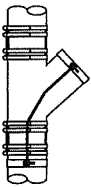
BLIND PLUGS AND END CLEANOUTS

- 1) Blind plugs and end cleanouts should be suitably braced from blowing out due to potential significant thrust loads. This bracing must be installed so it can be removed for servicing of the blind plugs and end cleanouts.

HORIZONTAL PIPING

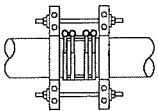
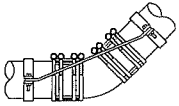
Horizontal Piping Suspended

- 1) Support horizontal piping and fittings at sufficiently close intervals to maintain alignment and prevent sagging or grade reversal. Support each length of pipe by an approved hanger (see Bibby hanger) located not more than 18 inches from the joint.
- 2) Support terminal ends of all horizontal runs or branches and each change of direction or alignment with an approved hanger.
- 3) Closet bends installed above ground should be firmly secured.



Horizontal Piping Underground

- 1) To maintain proper alignment during backfilling, stabilize the pipe in proper position by partial backfilling and cradling.
- 2) Piping laid on grade should be adequately secured to prevent misalignment when the slab is poured.
- 3) Closet bends installed under slabs should be adequately secured.



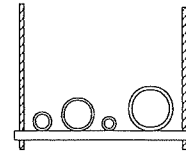
Horizontal Pipe Inside the Building

- 1) Installation Suggestions. According to most authorities and plumbing codes, five foot pipe should be supported at five foot intervals, ten foot lengths should be supported at ten foot intervals. Supports should be adequate to maintain alignment and prevent sagging and should be placed as near the joint as possible but not more than 18 inches from the joint.
- 2) Horizontal Installation of Large Diameter Pipe. Horizontal pipe and fittings five inch and larger must be suitably braced to prevent horizontal movement. This must be done at every branch opening or change of direction by use of braces, blocks, rodding, or other suitable methods to prevent movement or joint separation.

HORIZONTAL PIPING SUPPORTS / FITTINGS

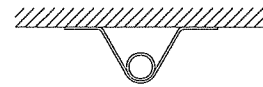
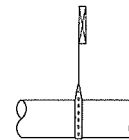
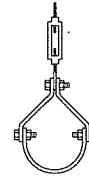
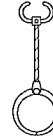
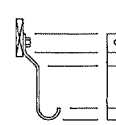
Horizontal Piping Supports

Horizontal piping shall be supported at sufficiently close intervals to prevent sagging. Trapeze hangers may be used. Pipe, where top of the pipe is 12" or more from the supporting structure shall be braced on each side of a change of direction of 90 degrees.



Horizontal Fittings

- 1) Hangers should be provided as necessary to provide alignment and grade. Hangers should be provided at each branch connection. Hangers should be adequate to maintain alignment and prevent sagging and should be placed adjacent to the coupling. By placing the hanger properly, the proper grade will be maintained. Adequate provision should be made to prevent shear. Where pipe and fittings are suspended in excess of eighteen inches by means of non-rigid hangers they should be suitably braced against horizontal movement, often called sway bracing.
- 2) Closet bends, traps, traps arms and similar branches must be firmly secured against movement in any direction. Closet bends installed above grade level should be stabilized. Where vertical pipe closet studs are used they must be stabilized against horizontal movement.
- 3) When a hubless blind plug is used for a required cleanout, the complete coupling and plug must be accessible for removal and replacement.
- 4) The connection of closet rings, floor and shower drains and similar "slip-over" fittings and the connection of hubless pipe and fittings to soil pipe hubs may be accomplished by the use of caulked lead and oakum or compression joints.



PAINTING CAST IRON SOIL PIPE

Cast iron soil pipe and fittings that have been factory coated with a bituminous coating can be painted if desired. A primer coat of latex emulsion paint, which is readily available in retail outlets can be applied.

The latex paint prevents the bleeding of the bituminous coating. A finishing coat of enamel in an appropriate colour can then be applied to blend the cast iron soil pipe with the interior surroundings.

CAUTION

WHEN PAINTING, THE MANUFACTURERS APPLICATION AND SAFETY INSTRUCTIONS SHOULD BE CAREFULLY REVIEWED AND FOLLOWED PARTICULARLY WITH RESPECT TO VENTILATION, EYE OR SKIN CONTACT OR USE NEAR HEAT, SPARKS, OR OPEN FLAMES. IN CASE OF ACCIDENT FOLLOW THE HAZARDOUS WARNING AND TREATMENT STATEMENT ON THE CONTAINER.