



Receiving, Storage, and Handling

RECEIVING

Upon receipt of a PVC pipe shipment at the job site, the contractor or purchaser should exercise established precautions. The following procedures are suggested as common practices to prevent problems:

Inspection: Each pipe shipment should be inventoried and inspected with care upon arrival. PVC pipes are inspected and loaded with due care at the factory using methods acceptable to the carrier. It is the carrier's responsibility to deliver the shipment in good condition. It is the responsibility of the receiver to insure that there has been no loss or damage. Records should accompany each shipment that provides a complete list of all items shipped. Items should be checked against the records. Any errors should be reported to the carrier immediately and proper notation made on the delivery receipt.

The following procedures for acceptance of delivery are recommended:

- Make overall examination of the load. If the load is intact, ordinary inspection while unloading should be sufficient to insure that the pipe has arrived in good condition.
- If the load has shifted, has broken packaging, or shows rough treatment, each piece should be carefully inspected for damage.
- Check total quantities of each item against shipping.
- Any damaged or missing items must be noted on the delivery receipt.
- Notify carrier immediately and make claim in accordance with their instructions.
- Do not dispose of any damaged material. The carrier will notify you of the procedure to follow.
- Shortages and damaged materials are normally not re-shipped without request. If replacement material is needed, reorder from the distributor.

Unloading: The means by which PVC pipe is unloaded in the field is the decision and responsibility of the receiver. Preferred unloading is in package units using mechanical equipment. When unloading package units, the following instructions should be carefully followed:

- Remove restraints from the top unit loads. These may be either fabric or steel straps or ropes.
- If there are boards across the top and down the sides of the load which are not part of pipe packaging, remove them.
- Use a fork lift with thin chisel forks, extend forks (or front-end loader equipped with forks) to remove each top unit (one at a time) from the truck. Remove back units first. Do not run the forks too far under units as fork ends striking adjacent units may cause damage or cause adjacent units to fall resulting in damage or personal injury. Insure forks are fully engaged.
- If a fork lift is not available, a spreader bar with fabric straps which are capable of handling the load (with straps spaced approximately 8 feet apart and looped under the load) may be used. Cables may also be used if cushioned with rubber hose sleeves or other material to prevent abrasion of the pipe.
- During the removal and handling, be sure that the units do not strike anything. Severe impact could cause damage (particularly during cold weather).

Caution:

Do not handle units with individual chains or single cables, even if padded. Do not attach cables to unit frames or banding for lifting.



- Pipe package units should be stored and placed on level ground.
- Package units should not be stacked more than eight feet high. Units should be protected by dunnage in the same way that they were protected while loaded on the truck.
- To unload lower units, repeat the above unloading process. Care should be taken to insure that pipe is not dropped or damaged.

STORAGE

Due to the presence of heavy equipment, jobsite damage is a possibility on pipe construction projects. The following procedures and practices are recommended to prevent damage to PVC pipe:

Storage Recommendations

- Pipe should be stored, if possible, at the job site in unit packages provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to bell ends of the pipe. Note: Frequently, PVC pipe in unit packages will display bell ends arranged alternately with pipe spigots.
- When unit packages of PVC pipe are stacked, insure that the weight of upper units does not cause deformation to pipe in lower units.
- PVC pipe unit packages should be supported by racks or dunnage to prevent damage to the bottom during storage. Supports should be spaced to prevent pipe bending.
- When exposure in excess of two years to direct sunlight is anticipated, PVC pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excessive heat accumulation
- PVC pipe should not be stored close to heat sources or hot objects such as heaters, boilers, steam lines, engine exhaust, etc.
- When unit packages of PVC pipe are stacked, insure that the height of the stack does not result in instability which could cause stack collapse, pipe damage, or personnel injury.
- The interior, as well as all sealing surfaces of pipe, fittings, and other accessories should be kept free from dirt and foreign matter.
- Gaskets should be protected from excessive exposure to heat, direct sunlight, ozone, oil, and grease. Solvent cement, when used, should be stored in tightly sealed containers away from excessive heat.

HANDLING

- When using fork lifts or other handling equipment, follow procedures that prevent damage to PVC pipe. (See previous discussion on "Unloading.")
- Use caution when removing the pipe from the bundled units. Pipe that has shifted during handling or storage may fall when the straps are removed.
- When handling PVC pipe, avoid severe impact blows, abrasion damage, and gouging or cutting by metal surfaces or rocks. Avoid stressing bell joints and damage of bevel ends.
- Pipe should be lowered, not dropped, from trucks and into trenches.
- In preparation for pipe installation, placement (stringing) of pipe should be as close to the trench as practical and on the opposite side from excavated earth. Bell ends should point in the direction of work progress.
- In subfreezing temperatures, caution is advised in handling to prevent impact damage.

Note: Handling techniques considered acceptable at warm temperatures may be unacceptable at very cold temperatures. When handling PVC pipe in cold weather, consideration must be given to variation in the pipe's impact strength. The impact strength of PVC pipe at 0°F (-18°C) is no worse and sometimes better than the impact strength of most other pipe products; however, unlike some other materials, PVC pipe's impact strength at 0°F (-18°C) is lower than its impact strength at 73°F (23°C).