

Why correct handling, storage, transportation of plastic pipes is vital

While the end-users of pipes produced by members of the Southern African Plastic Pipe Manufacturers Association (SAPPMA) may be confident in their quality as SANS, ISO and SABS have high standards and strict criteria that need to be met, what about the way in which these pipes are stored, handled and transported once they leave the factory floor, or the distribution warehouse?



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What standards and best practice models should be followed to ensure that these valuable pieces of infrastructure are not damaged en route to their final rest place? SAPPMA CEO Jan Venter confirms that as much care should go into planning the safe and responsible transportation, storage and handling of plastic pipes as has gone into the manufacturing process.

“The supply of safe and reliable pipes involves the entire supply chain – starting with the raw material suppliers on the one side and ending with installers at the final stage. In-between, transportation and logistics are two very important steps that help drive members’ businesses and ensure a seamless service to customers and end-users,” Venter explains.

Plastic pipes are durable despite their lightness. Although this makes handling the pipes much easier, it could also potentially mean that they are likely to be mistreated. According to Venter, there are certain reasonable precautions that should be taken during handling and storage to ensure that the pipes are not damaged. These include:

Storage

- Storing plastic pipes in direct sunlight should be restricted to a period of six months from their manufacture. Ensure that rubber seals are not exposed to direct sunlight for this period.
- Pipes in storage must be adequately supported at all times. Racks should provide designed support and contact between pipes and sharp edges, burrs, and corners on metal racks should be avoided.
- Flanged pipes must not be stacked in large piles, especially under warm conditions: the lower pipes in the stack may become distorted with consequent difficulty in jointing.
- Socketed pipes (if stacked in layers), should have the sockets placed alternatively at opposite ends of the stack. The ends of pipes should be made safe from damage.
- Pipes of different diameters should not be nested, one inside the other, when stacked.

Supporting

- Lateral supports should be installed at maximum intervals of 1.5m. These supports should preferably consist of posts at least 50mm wide. If the pipes are in bundles of approximately 1×1m, the lateral supports should be spaced at greater distances of up to 3m.
- Plastic pipes should be supported evenly over their whole length. If this is not possible, they should be carried on wooden supports of at least 50mm usable width, the axes of which are at most 2m apart.



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Stacking

- Pipes of different diameters and different thicknesses should ideally be stacked separately. If this is not possible, the largest and thickest pipes should be placed at the bottom.
- Pipes should be stacked on a reasonably flat surface, free from sharp objects, stones or projections likely to deform or damage them.
- Ensure the stacked piles are in a location where it would not be possible for dirt to get into the pipes. Do not place the pipes in contact with pipes used for fuel, solvents or paints.

- Ensure that the pipes are not constructed to such a height where the pipes might be deformed.
- When stacking socket-end-spigot-end pipes, the sockets shall be alternated within the pile and shall project sufficiently for the pipes to be correctly supported along their whole length.
- Make sure all health and safety procedure guidelines are followed. Wind may blow over too high stacks in some areas.

Handling

- When handling the pipes, care should be taken not to damage the surface. This is especially important if the ends have been treated, for example, for spigot and socket joints.
- Pipes should not be dropped onto a hard surface or dragged along the ground.
- Pipes should be loaded and unloaded carefully by hand. If handling equipment is used, make sure that it is used in such a way that it does not cause damage the pipes.
- The impact resistance of PVC is reduced in cold weather and more care needs to be taken in handling during winter. If the temperature falls below -5°C , special instructions should be requested from the manufacturer.
- Avoid direct contact with metal pipes, slings, hooks or chains as this could damage the plastic pipes.



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Transportation

- When transporting pipes, flat bed vehicles should be used. Ensure that the bed is free from nails and other protuberances and that the pipes rest uniformly on the vehicle over their whole length.
- The vehicle should have side supports appropriately spaced (approximately 2m apart) and the pipes must be secured effectively during transportation. For pipes in bundles of approximately $1 \times 1\text{m}$, the space of the side supports can be increased to 2.5-3m.
- When loading socket-end and spigot-end pipes, the pipes should be stacked so that the sockets do not take any load.
- When loading the pipes onto the vehicle, ensure that the overhang does not exceed 1m.
- Thicker walled pipes should be loaded before the thinner walled pipes.
- Where the pipes have been "telescoped" for transportation, remove the inner pipes first and stacked them separately.
- Once the pipes are delivered, it is important for the purchaser to carefully inspect the pipes at the place of delivery. The markings of the pipes should be checked to ensure that they correspond to the specifications of the order, and all seal rings are properly in place.

"Plastic pipes should be synonymous with reliability and trust. Whilst SAPPMA regularly conducts audits to confirm the raw materials that have gone into the pipes and that quality processes were followed during manufacturing, it is important that this same attention to detail and care is extended to the handling and transportation of these pipes. The latter should be reliable as the pipes that our members manufacture," Venter concludes.