



Geotextile Pipeline Weight Specification

Guidelines

The following should be considered as the **minimum requirements** for the design, manufacture and supply of non-biodegradable, geotextile pipeline weights (GPW) intended for use as pipeline anti-buoyancy devices when filled with local, natural aggregate ballast.

1.0 Design and Manufacturing

- 1.1 Manufacturer should demonstrate a minimum of five years of continuous, successful experience in the manufacture of fabric-type weights for pipeline buoyancy control.
- 1.2. Manufacturer must be ISO 9001 registered.
- 1.3. Design should incorporate multiple compartments for longterm integrity
- 1.4. Must be top loading.
- 1.5. An individual compartment safety factor of four times the rated capacity must be proven by a third party testing facility.
- 1.6. Lift webbing must maintain a minimum four times factor of safety.

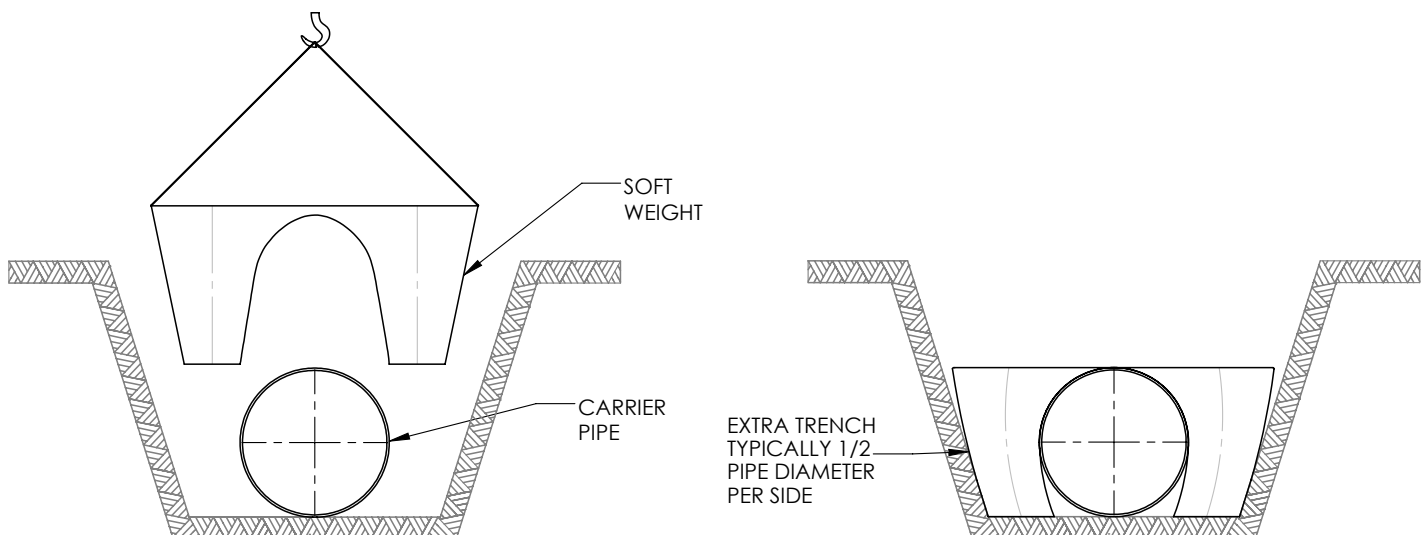
2.0 Materials

2.1 Body Fabric

- a) Woven, non-coated polypropylene.
- b) Geotextile rated to ensure water flow.
- c) Single layer to ensure durability.
- d) UV treated.

2.2 Webbing and Lift Strapping

- a) Manufactured from polypropylene or polyester only.
- b) Minimum tensile strength of 10,000 lbs (4,500 kg) for individual compartment capacities in excess of 1,000 lbs (450 kg).
- c) All load-bearing thread must be polypropylene.



3.0 Delivery, Storage and Handling

- 3.1 To be delivered on pallets with UV protective covers for ease of handling and long term storage.
- 3.2 Until use, protective covers or separate tarps must be maintained to ensure proper protection from the elements (oil, dirt, sunlight, etc.).

4.0 Filling and Installation

- 4.1 For non-freezing conditions, a dry, clean aggregate ballast from a coarse sand to 1" (24 mm) stone (less than five per cent silt content) is recommended.
- 4.2 For freezing conditions, a screened stone with a consistent diameter between 1/4 in to 3/4 in (6 to 19 mm) is recommended.
- 4.3 Use only filling frames supplied by your GPW manufacturer.
- 4.4 For long term storage (more than three months) or freeze/thaw conditions, filled GPWs should be covered with UV resistant shrink wrap in groups of 50 or less.
- 4.5 During freezing conditions, the following additional steps are required:
 - a) Proper grading of stockpile yard.
 - b) The use of straw mulch or plastic tarping beneath GFWs stored along the pipeline right of way.
- 4.6 For pickup and loading, ensure all hooks are free from any burrs or sharp edges.
- 4.7 Trailers with rails or strapping to secure load shall be used for transportation to site. During transportation, do not stack bags weighing over 2,500 lbs (1,134 kg).
- 4.8 In stockpile yards, GPW's weighing 7000 lbs or under can be stacked safely.
- 4.9 Keep GPW in an upright and leaning position when stockpiled in fill yard and on the pipeline right of way.
- 4.10 Additional trench width to accommodate GPW is approximately half the pipe diameter per side at the nine and three o'clock positions.

- 4.11 Extra trench depth is typically not necessary.
- 4.12 Clean all loose stones or debris off the bottom of GFW just prior to installing.
- 4.13 GFW must be capable of installation without workers in the trench

5.0 Additional Technical Requirements

- 5.1 All material testing supplied by manufacturer should be as per American Society for Testing and Materials (ASTM) or equivalent standards.
- 5.2 Manufacturer shall make skilled personnel available for assistance and training in the proper filling, hauling and installation.
- 5.3 Bags shall be placed on the pipeline at center-to-center spacing as detailed on the drawings and specifications.
- 5.4 Any damaged GPW should be set aside for inspection.

