

WATER SUPPLY PIPES

Livestock water supply pipes imbedded in an earth embankment are expected to function for many years with minimum maintenance. Pipes may be made of galvanized steel (ASTM A-120), copper (Type K), or plastic. Galvanized steel is not recommended because of possible corrosion problems and copper is not recommended because of high cost. Plastic pipe may be acrylonitrile-butadiene-styrene (ABS)(ASTM D-2282), polyethylene (PE)(ASTM D-2239), or polyvinyl chloride (PVC)(ASTM D-2241). PE and PVC pipes are most readily available and most commonly used.

Plastic pipe is limited to installations with fill over the pipe of 25 feet or less. The earthfill adjacent to the pipe must be hand tamped throughout the embankment area. Minimum nominal pipe diameter is 1-1/4 inches. When pipes with nominal diameter of 2 inches or less are imbedded in plastic soils, including CL, CH, and MH material, anti-seep collars are not necessary. The classification of pipe will be in accordance with the table below.

Special requirements:

PVC pipe

1. Material shall be PVC 1120 or PVC 1220.
2. Solvent welded joints and/or gasketed, watertight bell couplers shall be used to connect the pipe. Gaskets shall conform to ASTM D-1869.
3. To ensure watertight joints, the pipe shall be pressure tested to the maximum head required for the site prior to backfill.

PE pipe

1. Material shall be PE 2306, PE 2406, PE 3406, or PE 3408.
2. The pipe shall be installed so that there are no joints within the embankment area.

ACCEPTABLE SIZES OF WATER SUPPLY PIPES

Pipe Diam. - Inches		1 1/4		1 1/2		2	
Maximum Fill Over Pipe - Feet		20	25	20	25	20	25
PVC	SDR	13.5	11	13.5	11	13.5	11
	Schedule	40	40	40	40	80	80
PE	SIDR	9	7	9	7	9	7
	Schedule	80	80	80	NA	NA	NA