

Hose Safety & Inspection

Rubber hose is frequently used in concrete placing because it is flexible and lets workers place the concrete exactly where needed. Concrete pumping hose is specifically designed and manufactured for the rigorous applications of concrete pumping. Typical hose construction consists of an internal rubber liner reinforced with layers of either fabric or steel cord, and then covered with a tough weather and wear-resistant outer wrap. The inner liner must provide a smooth surface to accommodate the concrete flow and must withstand the severe effects of abrasion from the concrete flow. Consult the Con Forms factory for specific burst and working pressures. Never use a hose that does not have a working pressure less than the max working pressure of the pump.

Types of Hose

Fabric or Textile Reinforced

Recognized for their lighter weight and generally lower initial cost, fabric hoses are reinforced with multiple plies of synthetic cord. Since fabric does not have the strength of steel ply, more layers of reinforcing plies are required.

Steel Reinforce

Recommended for the most demanding conditions, the flexible steel ply construction allows easy handling with a small bend radius, yet the hose is extremely crush resistant. The steel ply design of the hose reduces kinking and collapsing of the hose and allows easy cleaning by reverse pumping.

Tapered Hose

Only used as a single ended boom hose. Has a gradual taper from the inlet to the tip of the hose. Used to preserve the air entrainment and to control splatter at reduced pumping speeds. Always wire reinforced for durability and pressure handling.

Hose Handling Safety Instructions

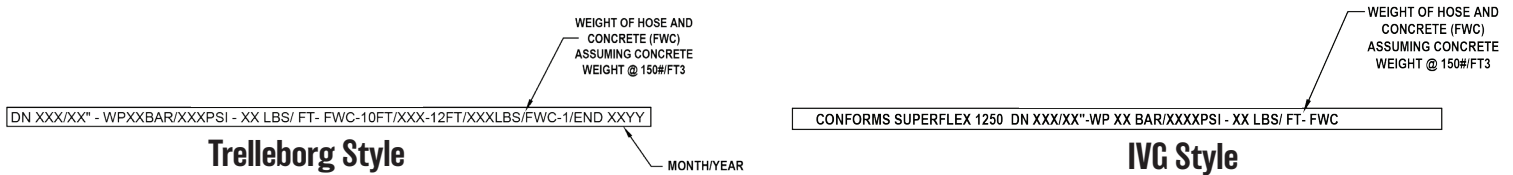
- Always use the correct hose for the job. Never use a double-ended hose on the tip of a boom where a hose man will be working.
- Never kink the hose. Kinks cause blockages and pressure spikes. **The hose may straighten violently and cause personal injury.**
- Always verify that a blocked hose is not pressurized before opening any coupling.
- Never look into a hose that is plugged.
- Never use hose with frays or breaks, or with the braiding or reinforcing exposed. Check both the outer cover and inner liner.
- Never sit, straddle or stand on a concrete placing hose.
- Never use compressed air to clean a hose.
- Never drag the hose by the coupling or drag the hose sideways with the boom.
- Never exceed the manufactures recommend maximum tip hose weight when full of concrete.
- Never beat on concrete pumping hose with a hammer or other object. This impact damages the reinforcing material and will lead to premature hose failure, rupture, and may create a violent pressure release
- Always use a safety sling or cable to connect tip hose to the boom. Use one sling for each item hanging from the boom.

Hose Inspection Procedure

Hose has a limited life and the user must be alert to signs of impending failure, particularly when the conditions of service include high working pressures. The following inspection and examination procedures will help users detect signs indicating hose deterioration or loss of performance. See Illustration below.

Hose Identification

There is an embossed strip permanently marking the hose for identification in the field. There are two types of Hose Emboss markings:



The IVG style places the quarterly date code markings on the colored transfer tape.

*It is recommended that all hoses should be retired after ten years of continued use in the field. Regardless of condition.

Visual Inspection of the Cover:

1.) Any defect which damages the reinforcing plies (wire or fabric) will severely reduce the ability of the hose to withstand pressure. If the hose has damaged areas, the hose must be either discarded. Examine the cover of the hose for bulges, kinks, soft spots, cuts or abraded areas which may indicate broken or displaced reinforcement.

Visual Inspection of the Liner:

Hose with defective or excessively worn liner areas must be either discarded.

- 1.) Examine the liner of the hose for localized wear areas. Pay special attention to the first 12" of liner adjacent to the hose body.
- 2.) Use a flashlight to examine the entire hose liner for signs of exposed reinforcement, loose plies, cuts, gouges, etc.

Visual Inspection of the Coupling / Ferrule:

If there are any signs of excessive wear or movement between the hose, ferrule or hose body, the hose must be discarded.

- 1.) Examine the hose body for excessive wear at the inlet face (bell-mouthing).
- 2.) Examine the hose body barb area for signs of the barbs showing from the inside.
- 3.) Examine the ferrule for signs of movement. Verify that the hose is visible through the ferrule inspection hole.
- 4.) Examine the gasket surface for damage, nicks, dents, or abrasion. Check the areas adjacent to the gasket surface for concrete buildup.

Illustration - Hose Construction

