

Application Data

General Hose Information

Hose Maintenance

Hose has a limited life based on the severity and type of chemical contact, environment or exposure to heat and petroleum products. Eaton recommends the following maintenance procedure to determine when hose should be replaced.

General Test and Inspection Procedures for Hose


An inspection and hydrostatic test should be done periodically to ensure hose is suitable for continued service.

A visual inspection of the hose should be made for loose covers, kinks, bulges, or soft spots which might indicate broken or displaced reinforcement. The couplings or fittings should be closely examined and, if there is any sign of movement of the hose from the couplings, the hose should be removed from service.

The periodic inspection should include a hydrostatic test for one minute at 150 percent of the recommended working pressure of the hose. An exception to this would be woven jacketed fire hose. During the hydrostatic test, the hose should be straight, not coiled or in a kinked position. Water is the usual test medium and, following the test, the hose may be flushed with alcohol to remove traces of moisture. A regular schedule for testing should be followed and inspection records maintained.

Hose Inspection

Hose assemblies shall be inspected and tested immediately after the hose is subjected to abnormal abuse such as: severe end pull, flattening or crushing or sharp kinking. As you inspect a hose assembly, remember that most hose failures occur between the coupling and the first three feet along the hose length. Pay close attention to this area. Any hose that has been recoupled shall be proof-tested for one minute at 150 percent of the recommended working pressure of the hose, and inspected before being placed in service.

 **SAFETY WARNING:** Before conducting any pressure tests on hose, provision must be made to ensure the safety of the personnel performing the tests and to prevent any possible damage to property. Only trained personnel using proper tools and procedures should conduct any pressure tests.

The following guidelines should be adhered to during testing and/or inspection:

1. Air or any other compressible gas must never be used as the test medium because of the explosive action of the hose should a failure occur. Such a failure might result in possible damage to property and serious bodily injury.

2. Air should be removed from the hose by bleeding it through an outlet valve while the hose is being filled with the test medium.

3. Hose to be pressure tested must be restrained by placing steel rods or straps close to each end and at approximate 10 foot (3m) intervals along its length to keep the hose from "whipping" if failure occurs; the steel rods or straps are to be anchored firmly to the test structure but in such a manner that they do not contact the hose which must be free to move.

4. The outlet end of hose is to be bulwarked so that a blown-out fitting will be stopped.

5. Provisions must be made to protect testing personnel from the forces of the pressure medium if a failure occurs.

6. Testing personnel must never stand in front of or in back of the ends of a hose being pressure tested.

7. If liquids such as gasoline, oil, solvent, or other hazardous fluids are used as the test fluid, precautions must be taken to protect against fire or other damage should a hose fail and the test liquid be sprayed over the surrounding area.

Woven jacket fire hose should be tested in accordance with the service test provisions contained in the current edition of National Fire Protection Association Bulletin No. 1962—Standard for the Care, Use and Service Testing of Fire Hose, Chapter 5.

Visual Inspection

1. Hose

Any cuts, gouges or tears in the cover which do not expose the reinforcement should be repaired before the hose is returned to service. If the reinforcement is exposed, retire the hose from service.

Covers may show surface cracking or crazing due to prolonged exposure to sunlight, ozone, or high temperature during soak tank cleaning. Such deterioration, which does not expose reinforcing materials, is not cause for retirement.

Check for signs of soft spots, blisters, and kinking. If soft spots exist, pressure test the hose assembly and determine whether it is necessary to discard it.

 **WARNING** If cover blisters exist, be careful not to pop them. If the hose was damaged in such a way that material was allowed to leak between the cover and inner tube, the blisters may contain this material. If the material is hazardous and splatters when the blisters are popped, it could cause serious physical injury.