YOUR LOCAL HOSE PROS:
HERE TO CURE YOUR HOSE WOES

Let us help you with all key aspects of Industrial Hose usage within your facility:

Choosing the Optimum Hose for Your Application

Temperature
Identify the minimum and maximum temperatures the hose assembly will be exposed to with regard to the system media and the environment.

Pressure
Identify the minimum and maximum pressures (or vacuum) within and outside the hose assembly.

Material
Identify the system media and the environment to which the hose assembly will be exposed. This will help determine the materials of construction best suited to the application demands and whether the hose requires a static dissipative core.

Movement
Confirm whether the hose assembly will be installed in dynamic applications as this will require different considerations versus a static application.

Length
Determine the most likely route for installation of the hose, and use this to identify length requirements.

Cleanliness
Ease of cleaning the internal surfaces of the hose, as well as maintaining outside cleanliness, may be of concern.

End Connection
Identify the type of end connections which are most compatible with your system requirements. End connections differ with regard to materials of construction and pressure ratings.

Orientation
Hose assemblies with elbows and union ball joints may help resolve space constraint issues.

Desired Flow
Hose connection size, core tube construction, and routed installation may impact flow.

Drainability
Consider core construction as this will impact drainability.

Test Reports
Identify the need for documentation.

Special Testing
There are many different applications may require testing to requirements different from the production tests listed. For example, metal hose assemblies undergo an inboard helium leak test to a maximum leak rate of 1 × 10–5 std cm3/s. If your application uses liquid at a positive pressure, you may request an additional hydrostatic proof test.

Special Marking
There are many different options available to readily identify hose assemblies.

Documentation and Regulatory Requirements
Identify the need for special regulatory approvals or documentation.

Additional Protection and Covers
Covers are necessary for additional protection of the hose assemblies or surrounding systems.

Apply our proven **STAMPED** methodology to make sure you order the right hose for the right job:

S = Size
What's the necessary OD, ID, and length of Hose for your application?

T = Temperature
Similar considerations for the material being conveyed and the overall operating environment.

A = Application
What are the conditions of use? How and where will Hoses be routed? What's bend radius?

M = Media
What's the type and concentration of the conveyed material? What's its conductivity?

P = Pressure
What's your working pressure? Is there surge and/or vacuum to consider?

E = End Connection
11 different options, including Tube Stubs, Tube Fittings, VCR/VCO, Kwik Clamps, Tube Butt Welds, and more. Think about your attachment method and orientation as well.

D = Delivery
Testing, packaging, quality, and delivery requirements?

Other Key Factors Around Your Hose Decisions:

- **Select a hose with sufficient conductivity to ground the static electricity that can be generated by fluid passing through a hose.**
- **Select a core type, per application, that's flexible, drains easily, and is chemically compatible.**
- **Evaluate the amount of system vibration.**
- **When determining hose length, make sure to account for hose movement, system pressurization, and thermal expansion.**
- **Use elbows and adapters to relieve hose strain.**
- **Use elbows and union ball joints to resolve space-constraint concerns.**

Maximum Hose Life

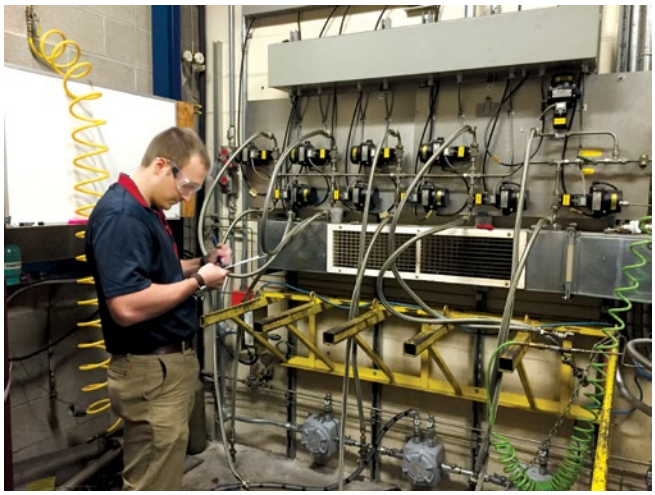
Here are 11 helpful Swagelok installation, usage, and maintenance tips to ensure a substantially extended hose performance, even in the most extreme operating conditions:

1. Set up and rigidly adhere to an Inspection Schedule based on system application and replacement history.
2. To guard against dangerous static electricity, choose a hose with sufficient conductivity to ground such a charge.
3. Consider your overall system vibration level. (Metal hose not ideal when severe, for example.)
4. When determining hose length, think about movement, system pressurization, and thermal expansion.
5. Follow minimum bend radius. (If you go too small, you may kink hose; if you bend too close to a connection, rupture could result.)
6. Relieve hose strain by installing elbows and adapters.
7. Provide sufficient hose length to distribute movement and to avoid bends smaller than minimum radius.
8. Allow for length changes due to machine motion/tolerances.
9. Make sure the hose is long enough to accommodate changes in system pressures.
10. Do not connect high-pressure or low-pressure hoses.
11. To eliminate hose twists, bend in one plane only.

INSPECTION INSIGHTS

Always remember that a hose is a wear product, requiring replacement from time to time – to avoid causing worker injury, equipment and environmental damage, excess scrap, and significant downtime and labor costs.

In particular, carefully look for broken wires, worn covers, abrasion, reinforcement layer issues, corrosion, stiffness/hardness, color changes, cover blisters, kinks, flat spots, ovality (versus roundness), and, of course, leakage.



Expert tip for Inspection frequency: Are your hoses likely to be damaged...and what are the consequences if they fail?

STORING FOR THE LONG TERM

- ***Always store hoses in clean, dry conditions***
- ***Always store hoses in original, unopened factory packaging***
- ***Protect hoses from UV light/sunlight***
- ***Cap hoses to prevent cross-contamination***
- ***Make sure hoses are hung to maintain shape***
- ***Make sure hoses are hung in a manner to prevent kinking***
- ***Use a curved rack to prevent a hose from bending past its minimum bend radius***
- ***Never drape a hose from a hook or bar***
- ***Never stack hoses on top of one another on a rack***
- ***Hang a hose vertically from its end connection (weight permitting)***
- ***Never store hoses on the ground***
- ***Never hang hoses from any rack/furniture with sharp edges***

KEEPING CLEAN

Never clean a hose with a material incompatible with the total hose assembly. Apply a neutral material (such as water), then do a blow-down purge and dry out with filtered compressed air or nitrogen.

Expert tip for cleaning: Consider smooth-bore styles for applications that demand cleaning...as convoluted hose is very difficult to clean and dry.

Swagelok Hose Essentials Technical Training

- Graduate with a complete understanding of critical Hose terminology, selection variables, and industry-best inspection and preventative maintenance processes.
- Learn exactly why/when/how Hose should be used and how to achieve maximum service life.
- Determine how to optimally apply our STAMPED acronym to your everyday Hose employment.
- Half-day; available at your location or at our Pittsburgh Training Center.

For complete details on how we can keep you safer and more productive, contact:

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