The following is SPIR STAR’s list of Do’s and Don’ts for proper and safe handling of high pressure hose. The improper use of high pressure hose can cause serious injury or property damage. NEVER handle a leaking hose assembly. Treat any injury from high pressure fluid seriously and seek immediate medical attention.

Do

• Treat high pressure hose with extreme caution. SPIR STAR hoses are wire reinforced hoses, not garden hoses, and they should be treated with the same care as a high pressure containment vessel.
• Always visually inspect the hose for damage, cuts, or wear spots before using.
• Check the hose end connections and threads for wear, rust, cracks, mechanical abuse, or other deterioration which could produce a dangerous projectile.
• Know the working and burst pressures of the hose before putting it in service.
• Always use clean, filtered water to prolong hose life. Some chemical plants’ water sources are high in sulfur, which attacks stainless steel.
• Always clean, drain, and coil hoses after use. Soap and water usually provide an excellent cleaning agent.
• Always wear protective gloves, eyewear, and garments when handling high pressure hose and waterjet lances.

Don’t

• Don’t use a hose that has cuts, damage, or wires showing through the outer cover.
• Don’t use a hose that has been kinked.
• Don’t use a hose that has bubbles or blisters in the outer cover.
• Don’t exceed the bend radius or pressure rating for each hose.
• Don’t run over or crush the hose with heavy vehicles.
• Don’t use a hose with corroded or leaking end connections. Take them out of service immediately.
• Don’t use hose that has been exposed to chemical attack or over temperature.
• Don’t bend the hose over scaffolding or pull heavy equipment with the hose.
• Don’t apply torque to the hose assembly.
• Don’t let hose support its own weight off towers or buildings.
• Don’t expect water jetting or hydraulic hose to last forever.
• Avoid using dirty water or water with sulfur compounds in it. Tests have documented that hoses fail more rapidly when using water sources from chemical plants and refineries.

Be Safe - Replace

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WARNING
HIGH PRESSURE HAZARD
INCORRECT USE MAY CAUSE SERIOUS INJURY!
• Read and follow SPIR STAR’s® written care and use of instructions
• If you have not read and understood the instructions, or if the instructions are not available, DO NOT USE THIS HOSE UNTIL YOU HAVE CALLED SPIR STAR, LTD. (800) 890-STAR or (281) 664-7800 24 hours a day 7 days a week SPIR STAR, LTD. 10002 Sam Houston Center Drive Houston, Texas 77064

Be sure to read and understand all warning labels that are associated with High Pressure Hose and related equipment.
A Guide for Proper Hose Selection

1. **Working Pressure** – When selecting the proper hose, the maximum operating system pressure must be equal to or less than the hose’s working pressure stated in the **SPIR STAR** catalog. Never select a hose that has a lower working pressure than the system’s operating pressure. *Please Note*: System pressure surges should also be considered when selecting the proper hose.

2. **Size** – The internal diameter (ID) of the hose must be of adequate size to keep system back pressure to a minimum. The incorrect ID can cause excessive friction and heat generation which can lead to premature hose failure. Knowing the system’s flow rating will aid in determining the proper hose ID.

3. **Fluid or Media** – The different media that can be conveyed through the hose plays an important factor in hose selection. Various chemicals and their combinations can attack the thermoplastic core material causing a breakdown of the material, which, in time, can lead to a hose failure. For more information on determining the proper hose and core material for your application, please consult with a **SPIR STAR** sales representative.

4. **Safety Factors** – The minimum working-to-burst pressure ratio or safety factor for **SPIR STAR** hose is 2.5 to 1. This means that a hose having a 10,000 psi working pressure must have a minimum burst rating of 25,000 psi. This complies with the WaterJet Technology Association’s requirement for hydro-blasting. Various applications may require a different safety factor than our standard 2.5 to 1 rating. The Society of Automotive Engineers (SAE) states that hose used in Hydraulic applications requires a 4 to 1 safety factor. **SPIR STAR** requires that for any type of gaseous media transfer, a safety factor of 6 to 1 between working and burst pressure must be used when selecting the hose.

5. **Temperature** – Be certain that the media being conveyed through the hose will be at temperatures not to exceed the guidelines set forth by **SPIR STAR** on our hose data sheets. Consideration also needs to be given to the temperature of the external environment to which the hose will be subjected.

6. **Permeation** – Permeation is the seepage of product through the hose from the inner core to the outside cover. This can occur with gaseous media and certain chemicals such as methanol. Permeation can occur in hose assemblies regardless of the internal pressure and can cause severe damage and premature failures. Special hose types should be considered in these applications.

7. **End Fittings** – Due to the variety of end fittings and thread forms available, such as JIC and NPT, it is important to understand that the hose’s working pressure can be down-rated to the end fitting’s maximum working pressure. Example: JIC swivel end fittings will not be rated higher than 10,000 psi though the hose’s maximum working pressure could be higher. Therefore, it is important to ensure the proper end fitting is chosen for the applicable system’s working pressure.

8. **Environment** – Extreme care must be taken to ensure that the hose selected will be compatible with its surrounding environment. These conditions include ultraviolet radiation, direct sunlight, temperature, ozone, moisture, chemicals, and air pollutants. These various conditions can lead to premature failure of the hose and should be a consideration when selecting the proper hose type.

*Please Note*: Hose selection is based on the data published in **SPIR STAR’s** catalog and is subject to change without notice.

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Installation Requirements

Do not kink the hose near the fitting.

Wrong  Wrong  Right

Do not twist the hose.

Wrong  Right

Do not pull equipment with the hose.

Wrong
Do not exceed the hose’s minimum bend radius.

Do not bend the hose over sharp edges.

Do not pull on hose loops, this can kink the hose.
Protect the hose against hot objects.

Protect the hose from being run over in traffic areas.

Avoid torsion.
Return Goods Authorization (RGA) Procedure

Following are SPIR STAR’s procedures for returning goods to our facility:

• Please contact our customer service department at (281) 664-7800 or (800) 890-7827.
• Let us know if this will be a repair, return, or a warranty issue.
• Our customer service department will issue you an RGA Number.
• **NO REPAIRS, RETURNS, OR WARRANTY WORK WILL BE ACCEPTED WITHOUT AN RGA NUMBER.**
• Upon receipt of goods at our facility, you will be contacted via phone or fax with the disposition.
• If after 10 business days of the first phone call, we do not receive any instructions from you, we will attempt to contact you again via phone and fax.
• We will only keep **repairs** 30 days after our second attempt to contact you.
• If you do not respond within 30 days, the **repair** will be discarded.

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www.spirstar.com

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