AFLEX HOSE
The world's leading manufacturer of PTFE Flexible Hose

AFLEX HOSE UK USAGE DATA SHEET

To be applied in addition to the relevant Hose Brochure, which specifies other usage limitations in greater detail. Available from Aflex Hose Ltd.

HOSE INSTALLATION & DESIGN REQUIREMENTS

Hose Assemblies are usually connected at both ends in service. They may then either remain in a fixed, or static configuration or in a flexing, or dynamic configuration.

Whether static or dynamic, **Rule 1** concerning the configuration of the hose is that **The bend radius of the hose must never be less than the Minimum Bend Radius (MBR) for the hose** as listed in the relevant hose brochure, this is to prevent the hose from kinking.

The most common situation when this is likely to occur is when the hose is flexed at the end fitting, with stress being applied to the hose at an angle to the axis of the end fitting. Typically, this happens either because the length of the hose is too short, or because the weight of the hose plus contents creates a stress at an angle to the end fitting.

Rule 2, therefore, is to **Design the configuration to ensure that any flexing in the hose takes place away from the end fittings.**

Rule 3 is that **Flexed Hose configurations which are not suspended vertically downward, but are to one side or upward, should be supported to prevent the hose from falling under its own weight,** which may kink or otherwise damage the hose.

Rule 4 is that **The hose configuration should always be designed, and supported where necessary, to avoid any possibility of external abrasion.**

In some cases, the length, configuration and angle of the hose can be designed to avoid abrasion. In others, static or moving support frames or support wheels are required.

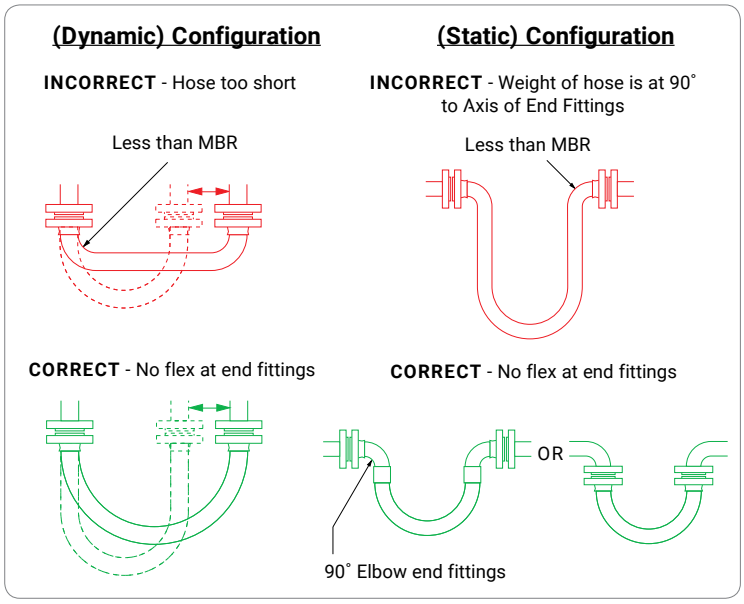
Rule 5 is that **The hose must not be subjected to torque, either during connection, or as a result of the flexing cycle.**

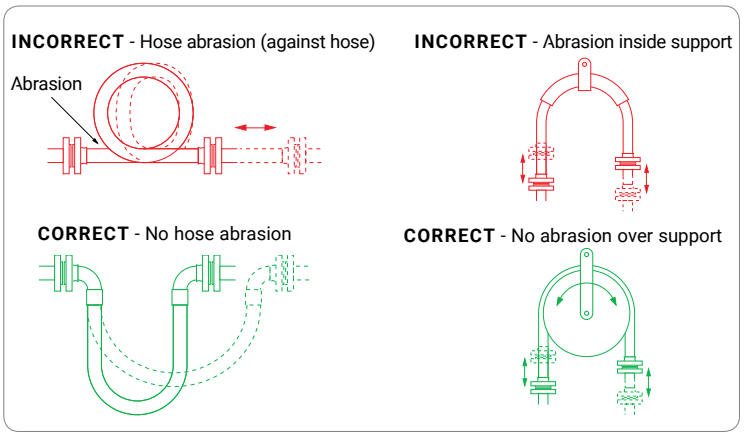
Torque (twist) in the hose can be applied during connection if the hose is accidentally twisted, or if the second end being connected is a screwed connection, and the hose is subjected to torque during final tightening.

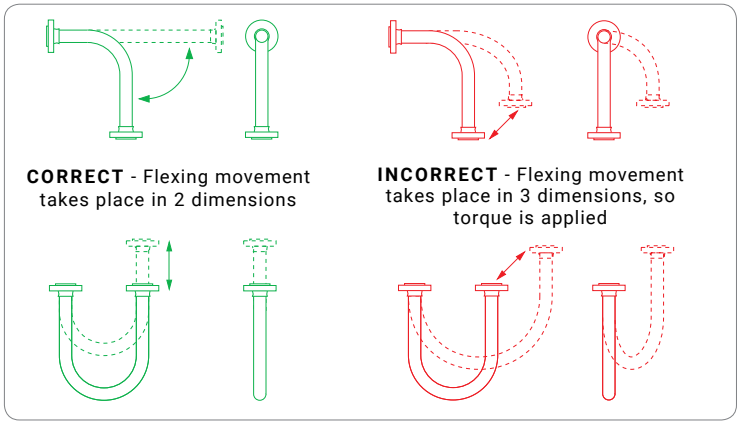
In a flexing application, if any flexing cycle of the hose occurs in 3 dimensions instead of 2, then torque will also occur:

Rule 6 is that **The hose must not be subjected to any excessive form of external abuse, whether mechanical, thermal, chemical or electrical.** Examples are excessive abrasion, crushing, pulling against a corner, cutting, impacting, contact with weld spatter, contact with a high temperature surfaces or flame, contact with any chemical corrosive to external hose components. Also, hose assemblies should not be subjected to high voltages, for example when an electric arc weld is struck with a hose assembly in the circuit.

Rule 7 is that **The Minimum and Maximum Working Temperatures and Maximum Working Pressures must be determined from the relevant Hose Brochure for the relevant hose and end fitting specifications.** It must be noted in particular that the Maximum Temperature and Maximum Pressure are interdependent, also that they depend not only on the braid, but also on any cover material, and the types of end fittings.







CONSIDERATIONS FOR 3A SANITARY HOSE ASSEMBLIES

Due to possible severe operational conditions the exterior covers applied to the metal overbraid may have a reduced useful life and should be monitored.

Should the materials underneath the external cover become exposed due to wear, deterioration or damage the assembly has exceeded its useful life.

Care must be taken when welding to 'Weld Stub' end fittings to ensure the integrity of the hose is not effected in any way or it's ability to be readily inspected. Also the assembly must not be altered so it no longer conforms to the criteria listed (i.e elbows must not be welded to the assembly)

The Sanitary fitting sealing face should be checked for warping, nicks, dents or deep scratches that would interfere with proper cleaning. Hose Covers should be inspected over he entire length for signs of hardening, abrasion, cuts, kinking or crushing if found this may reduce the service life of the hose assembly. For Non-lined DIN 11851 fittings to be used in a sanitary application they must be fitted with 3A approved gaskets.

The useful life of a hose assembly will be dependent on many factors. Users of hose assemblies should monitor their condition regularly to establish a likely service life.

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