

## CONSIDERATIONS WHEN SELECTING A FLEXIBLE METAL HOSE FOR A PARTICULAR APPLICATION

### Temperature

The physical properties of any material vary with temperature. Working pressure, the type of media being conveyed and the nature of the application are what affect the limits for operating temperature. Flexible metal hose can be used for a wide range of temperatures given that the material is selected carefully. The temperature limit depends upon the hose type, metal alloy, end fittings and the method of fitting attachment choices.

### Pressure

The nominal pressure ratings of flexible metal hose vary according to type, material and size. Pressure is affected by many other factors such as temperature, pulsating conditions and bending stresses, under actual working conditions.

### Media

The type of media being conveyed through the hose is important to consider during the selection process. Metal hose can be corroded by the material flowing through it and the outside environment. A metal hose can be selected that is resistant to the proposed media for almost all applications. Since metal hose has a thin wall, it will not have the same total life as a heavier walled tube or pipe.

### Size

The size of flexible metal hose is specified by the nominal diameter. When choosing a metal hose for a particular application, the existing piping will normally dictate the size needed. Flow rate, velocity and pressure drop considerations may also influence the selection of the hose size.

### End Fittings

There is an extensive range of end fittings available for flexible metal hose. These end fittings include male and female pipe threads, unions, flanges, flared tube fittings or other specially designed connectors. End fittings are attached by welding, silver brazing, soldering or other by other mechanical means, depending on the type of hose.

### Motion

Flexible metal hose is used in four types of applications:

- To correct misalignment
- To provide flexibility in manual handling operations
- To compensate for regular or constant movement
- To absorb vibration

In all types, careful hose selection, design of the assembly and installation are important for optimal service life. Mechanical design and the flexibility of its material determine the flexibility of a hose.

To make the best choice for a specific application, consider all the relevant operating factors against the properties of the various types of flexible metal hoses.

## STANDARD PITCH



Corrugated metal hose is normally manufactured in Standard Pitch (Close Pitch). Each manufacturer specifies a standard number of corrugations per foot based on their desire to provide for acceptable flexibility while considering economic requirements.

**OPEN PITCH**



Open Pitch has fewer corrugations per foot than Standard Pitch. This hose will not be as flexible and will have a much lower flexing cycle life. Open Pitch hose is intended to be used in less severe applications where flexibility and cycle life are not an important requirement or an effective method for dampening vibration.

**EXTREME FLEX PITCH**



Extreme Flex Pitch allows greater flexibility without thinning the wall of the hose by increasing the number of corrugations per foot. Extreme Flex Pitch will normally have a higher flexing cycle life and can be used in more severe applications where ease of flexibility is important.

**MOVEMENT CAPABILITIES**

