



# Technical aspects stripwound metal hose

## bend radius

The bend radius is measured from the center line of the hose to the mid point of the bend circle when flexed under nominal conditions.

When flexing a strip wound hose, the lock section on the outside of the radius is extended to its limits whilst those on the inside are compressed (almost touching each other).

The bend radius listed in the product data sheet for each hose is the average theoretical minimum bend radius where the hose is bent as far as possible without the lock section binding up. The strip wound hose can only be used in this condition when the hose is not under stress i.e. no vibration, no internal or external pressure, no repeated flexing.



The bend radius can vary with each batch of steel raw material in line with variations in the softness/hardness of that particular material supply.

Note – the bend radius is not necessarily related to the suppleness (pliancy) or flexibility of the hose. Squarelocked hose by its construction is more supple than the interlocked style, and unpacked hose is more supple than packed.

## pressure loss

When planning piping systems, the pressure loss of the conveyed medium is an important factor and needs to be considered in addition to the hose's pressure capability and flexibility. At equal flow rates, the pressure loss in metal flexible hose is higher than in grid piping.

In strip wound metal hose, the pressure loss is caused by the ridges of the spiral of the lock section on the inner bore which set up turbulence.

As a rough estimate, it can be assumed that the pressure loss in strip wound hose is 20% higher than in new welded steel pipe.

This means that an increase in the hose diameter of 4% is sufficient to reduce the pressure loss to the same value as new welded steel pipe.

## supply length measurements

Strip wound metal hoses are measured for supply in accordance with international standard ISO 7369.

Squarelocked strip wound hoses are in general manufactured by being pulled off the mandrel during forming so are supplied measured at maximum pitch i.e. where the lock section is fully extended.

Interlocked strip wound hoses however are mechanically pushed off the mandrel so are supplied measured at mid pitch i.e. neither fully extended nor compressed in the lock section. This point also reached by uncoiling a previously coiled up hose.