



# hose welding and testing

## corrugated hose assemblies

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### **hose assembly testing**

#### **dye penetrant**

This test is to check for leaks in a fitting attachment weld. A red dye is painted on the weld and a white developer sprayed on the outside of the weld. A leak is shown by the red dye appearing through the white developer.

#### **hydrostatic test**

In this test, the assembly is filled with water and internal pressure applied, a leak being detected by water dripping from any part of the assembly will be pressure proof tested to 1.5 times the nominated working pressure of the hose, or of the end connections, or as specified by the customer-whichever is the lowest.

#### **pneumatic test**

In this test, the assembly is filled with compressed air or gas and submerged in water, a leak being detected by air bubbles. Due to the explosive nature of pneumatic testing assemblies will be leakage tested as laid down in international standard which specifies the test pressure or 2 bars, whichever is the lower. No leakage is permitted. Please contact your SITCOFLEX sales office if a higher pneumatic test pressure is required.

#### **vacuum test**

In a vacuum test, all the air within an assembly is extracted and the assembly examined for distortion or failure. A leak is detected by monitoring if the pressure increases. (i.e. from -40kPa to -30kPa) when the pump is isolated.

The vacuum test pressure expressed in minus (-) kPa is set by the customers nominated vacuum pressure – it is not multiplied by 1.5. Minus -100 kPa is absolute. Our recommended maximum vacuum test pressure is -80kPa.

### **hose welding techniques**

It must be remembered when commencing the welding operation or corrugated hoses that you are working with thin gauge materials down to 0.15mm thick. It is recommended that only experienced TIG welders attempt this operation.

Below is a guide as to weld techniques when welding stainless steel to other materials:-

| Fitting Material | Weld Method   | Maximum Temperature |
|------------------|---------------|---------------------|
| Brass/Copper     | Silver Solder | 250 °C              |
| Carbon Steel     | Silver Solder | 400 °C              |
| Carbon Steel     | TIG (Argon)   | 600 °C              |
| Stainless Steel  | Silver Solder | 400 °C              |
| Stainless Steel  | TIG (Argon)   | 900 °C              |

For braided hose, it is essential that every strand of wire in the braid is captured and secured in the welding process or premature failure will occur.