

BFPA POSITION PAPER (PP 1)

HOSE RE-ENDING

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British Fluid Power Association, Cheriton House, Cromwell Park
Chipping Norton, Oxfordshire OX7 5SR, United Kingdom
Telephone: +44 (0) 1608 647900 e-mail: yvonne@bfpa.co.uk

BFPA POSITION PAPER (PP1) - HOSE RE-ENDING

Manufacturing companies do not condone the re-ending of their flexible hose products.

There is a high probability that re-ending will result in a situation when an injury occurs and the Company's insurance will not accept liability due to global standards that clearly advise NOT to do so.

It is impossible to know whether an original hose has been stretched, crushed, degraded by sunlight or damaged by chemicals, the hose assembly safety, therefore, cannot be guaranteed if a new end is fitted on a used hose.

The British Fluid Power Association (BFPA) position is that hose(s) shall not be re-ended.

Fluid Power

The following standards that most fluid power 'machinery' manufacturers use, in order to achieve a 'presumption of conformity' with the Machinery Directive 2006/42/EC, are nothing if not clear on the subject:

BS EN ISO 4413:

- *Clause 5.4.6.5.1 a) states: "hose assemblies **shall** be constructed from hoses that have NOT been previously used in operation as part of another hose assembly and that fulfil all performance and marking requirements given in appropriate standards"*

BS EN ISO 4414:

- *Clause 5.4.5.9.1 a) states: "hose assemblies **shall** be constructed from hoses that have NOT been previously used in operation as part of another hose assembly"*

In CEN and ISO parlance, the word **shall** is interpreted to mean 'must comply', and is non-negotiable. If the 'shall' requirements of such a standard are not met compliance with the standard concerned is not possible.

Both BS EN ISO 4413:2010 and BS EN ISO 4414:2010 are 'transposed, harmonised standards' which means that the members of the European Union (EU) have adopted the standards and have withdrawn any conflicting national standards. If you are supplying fluid power 'machinery' in the EU, it is very likely indeed that you will have to comply with the requirements of these standards.

If the product is for export outside of the EU, the customer may require compliance with BS EN ISO 4413 and/or BS EN ISO 4414.

As well as effectively banned in Europe, the practice of re-ending hose also destroys all the hard work that goes into an effective quality assurance programme.

Water Jetting

The Water Jetting Association's Code of Practice was amended to comply with BS EN 1829-2:2008 – a European standard that applies to hoses, hose lines and connectors intended to be used with high-pressure water jet machines operating at 350 bar and above.

Water Jetting

It therefore covers most water jetting applications and some drain cleaning applications:

BS EN 1829:2008

- *Clause 5.1 states: "Hoses, hose lines and connectors have to feature a certain structure in order to guarantee safe operation when used properly. They must not bear any risks for the operator or for the workplace and its environment. The design of any connector safety devices has to provide safe operational performance to eliminate any risk or hazard for the operator or their environment. However, improper use of a hose line or the connectors may result in hazardous situations and shall be avoided.*

NOTE: Correct assembly of hose lines requires specific knowledge and skills, also specific equipment.

Health and Safety Executive (HSE)

The HSE Guidance Note GS 4 (fourth edition) entitled 'Safety requirements for pressure testing' is aimed at employers, supervisors and managers responsible for pressure testing and addresses safe systems of work, safeguarding and maintenance.

Bibliography

BS EN 1829-2:2008 High-pressure water jet machines – Safety requirements – Part 2: Hoses, hose lines and connectors

BS EN ISO 4413:2010 Hydraulic Fluid Power - General rules and safety requirements for systems and their components

BS EN ISO 4414:2010 Pneumatic Fluid Power - General rules and safety requirements for systems and their components

ISO/TR 17165-2 Hydraulic Fluid Power - Hose assemblies - Part 2: Practices for hydraulic hose assemblies

HSE GS4 Safety requirements for pressure testing

The Water Jetting Association Code of Practice:2015 – For the use of high pressure and ultra high pressure water jetting equipment

PUWER 1998: Provision and Use of Work Equipment Regulations 1998