

## Additional Information

### 1. Further Reading - Bibliography

1. Swaffield J.A., Arthur S. and May R.W.P Priming of a syphonic rainwater system, CIB W62 Water Supply and Drainage for Buildings Symposium, Dutch Building Services Research Organisation, ISSO, Rotterdam September 1998.
2. Bramhall M.A and Saul A.J Examination of the performance of syphonic rainwater outlets, CIB W62 Water Supply and Drainage for Buildings Symposium, Dutch Building Services Research Organisation, ISSO, Rotterdam September 1998.
3. May R.W.P and Escarameia M. Performance of syphonic drainage systems for gutters, report SR 463 H.R.Wallingford. September 1996.
4. May R.W.P Manual for the hydraulic design of roof drainage systems: A guide to the use of British Standard BS 6367:1983. Report SR 485. H.R.Wallingford October 1996.
5. British Standard BS6367:1983 Code of practice for drainage of roofs and paved areas, BSI, London
6. Bramhall M.A and Saul A.J. Hydraulic Performance of Syphonic Rainwater Outlets, 8<sup>th</sup> International Conference on Urban Storm Drainage, Sydney, September 1999.
7. Slater J.A Computational fluid dynamics simulation and analysis of syphonic roof drainage outlets, MSc project 1998, Sheffield Hallam University.
8. Arthur S. and Swaffield J.A Numerical modelling of syphonic rainwater drainage systems – The role of air in the system, 8<sup>th</sup> International Conference on Urban Storm Drainage, Sydney, September 1999.
9. European Standard BS EN 12056-3 : 2000 Gravity drainage systems inside buildings, BSI, London
10. Hamill, L, 1995, Understanding Hydraulics, Macmillan Press, London, ISBN 0-333-59910-1

If you have problems locating any of the literature referred to or for any other technical assistance please contact the Marketing Department of Fullflow Group Ltd 0114 247 3655 or e-mail [info@uk.fullflow.com](mailto:info@uk.fullflow.com)

### 2. Legislation / Regulations etc.

Currently no legislation exists relating solely for Syphonic Roof Drainage Systems. However the following Codes of Practice / Regulation have an influence on system design.

- BSEN 12056 part 3, 2000 – Gravity drainage systems inside buildings.
- DIN 8074 – Polyethylene pipes, dimensions.
- DIN 8075 – Polyethylene pipes, General quality and testing.
- NBS R10 Specification.
- ISO 9001- Manufacture.
- Building Regulations section H.
- BBA Accreditation.
- WIS 4-32-08 issue 2 – Specification for site fusion jointing of PE80 & PE100 pipe and fittings July 1994

### 3. Cost in use / Sustainability

- Lifecycle of system – Syphonic rainwater systems are designed giving consideration to the lifecycle of the building, most commonly systems will be installed using HDPE / HPPE pipe with typical guarantees being up to 50 years
- Disposal of materials – No special disposal methods are required in the dismantling of a syphonic system. There are no special health and safety requirements to be taken into account and up to 90% of the material in a system can be recycled.
- Maintenance costs – By their nature the priming velocities required in a syphonic system will often exceed self cleansing velocities as stated in local and national regulations thus eliminating the need for cleaning out of the pipes. It is recommended that the gutters be kept clear and that they are cleaned out at least once every six months.
- Accidental damage – In the event of accidental damage to a system (eg. a pipe being hit by a fork lift truck). Repairs should be undertaken by a specialist company; the effected area of pipe should be cut away and replaced by fusion welding a new pipe section into place. Care should be taken to ensure that pipe grades and pressure ratings are matched in order that the system integrity is not compromised. Please contact Fullflow