



Kalsi Aquaflow Soil and Waste Systems consist of extruded pipe sections, injection moulded fittings and traps to efficiently convey sanitary waste from all types of building.

The components in these systems enable the construction of Soil and Waste installations complying with the requirements of BS EN 12056-2:2000, and with the Building Regulations.

There are complementary Kalsi Aquaflow Underground Drain and Sewer systems to provide a complete solution for all drainage requirements.

AUTHORITY

Kalsi Aquaflow Soil and Waste Systems satisfy the requirements of the following:

- The Building Regulations 2002.
- Building Standards (Scotland) Regulations 1990.
- Building Regulations (Northern Ireland) 1990.

STANDARDS

Kalsi Aquaflow Soil and Waste Systems are manufactured, as applicable, to the following British Standards:

- BS 3943:1988: Specification for plastic waste traps.
- BS 4514:1983: Specification for unplasticised PVC soil and ventilating pipes, fittings and accessories.
- BS EN 1451:2000 Plastics piping systems for soil and waste discharge within the building structure – polypropylene.
- BS 5255:1989: Specification for thermoplastics waste pipe and fittings.

All components are manufactured under a quality management system registered under British Standards BS EN ISO 9001:2000.

COMPOSITION

Extruded pipe sections and injection moulded fittings are made from PVCu, MuPVC and polypropylene compounds complying with the material requirements of the relevant British Standards. They contain the necessary processing additives, stabilisers and pigments to give products with excellent appearance, durability and performance.

MATERIAL PROPERTIES

Material properties determine the correct selection of a system. The main materials used are PVCu, modified PVCu and polypropylene. Polyethylene is used in the manufacture of snap caps to retain the ring seals. Unplasticised polyvinyl chloride, PVCu, is a most versatile material. Many processing methods can be used, it can be coloured, is light in weight, and has good chemical resistance, fire performance and weather ability. PVCu can be modified to increase its resistance to higher temperature discharges. Polypropylene has excellent chemical resistance and can tolerate higher temperatures.



SERVICE TEMPERATURE

PVCu has a softening point in excess of 70°C, and PVCu soil stacks can cope with short intermittent discharges with temperatures up to 90°C. Modified unplasticised polyvinyl chloride, MuPVC, has a softening point above 90°C so, in addition to the normal properties of PVCu, it can also cope with higher temperature discharges over prolonged periods.

The higher softening point of polypropylene, above 140°C, means it can cope with high temperature discharges, such as boiling water, and it is the most appropriate material for the manufacture of traps.

UV LIGHT RESISTANCE

While polypropylene has good chemical resistance, resistance to UV light is poor. Exterior applications require protection using paint or enclosures. PVCu can be formulated to give excellent resistance to UV light, and so is suitable for exterior uses, requiring no additional protection.

FIRE PERFORMANCE

PVCu in almost all forms has superior fire performance to most plastic materials: this makes it a suitable choice for indoor applications as it will require no additional fire protection. Polypropylene has poor fire performance, interior applications require protection.

THERMAL EXPANSION

PVCu has a coefficient of expansion of approximately 0.06mm/m/°C. Consequently a 2m length of soil or waste pipe will expand by 2.4mm for a 20°C rise in temperature. This expansion is taken into consideration in the design of systems and components, and must be accommodated when installing. A similar allowance should be made when installing polypropylene and MuPVC systems.

BIOLOGICAL AND CHEMICAL RESISTANCE

Polluted industrial atmospheres will not affect Kalsi Aquaflow Soil and Waste Systems. PVC and polypropylene are rot and vermin proof and resistant to most commonly occurring chemicals, so it will not be affected by domestic effluents. Notable exceptions however are solvents, including those incorporated in most timber preservatives. Kalsi Aquaflow Soil and Waste systems should not be used for the disposal of industrial chemical wastes.

TIMBER PRESERVATIVES

Before any component is fixed to a timber surface treated with wood preservative, the preservative must be dried thoroughly. The solvent content of wet preservatives can attack and embrittle plastic materials.