



**Kalsi Aquaflow soil and waste products** consist of extruded pipe sections, injection moulded fittings and traps to convey efficiently sanitary waste from all designs of building.

The component parts of the systems enable the construction of Soil and Waste installations complying with the requirements of BS EN 12056-2:2000, and with building regulations.

Aquaflow products are also available for Underground Drain and Sewer systems to provide solutions for all drainage requirements.

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.

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

**BS EN 274-1:2002:** Specification for Waste Traps.

**BS 4514:1983:** Specification for unplasticised PVC soil and ventilating pipes, fittings and accessories.

**BS EN 1451:2000:** Plastic piping systems for soil and waste discharge within the building Structure-polypropylene.

**BS 5255:1989:** Specification for thermoplastics waste pipe and fittings.

**All component parts are manufactured under a quality management system registered under BS EN ISO 9001:2000.**

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

## **MATERIAL PROPERTIES.**

Material properties determine the correct selection of a system. The main materials used are PVC u and polypropylene. PVC u is a most versatile material; it 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, has a softening point above 90°C. The higher softening point of polypropylene, above 140°C, means it can cope with higher discharges, such as boiling water making it ideal for the manufacture of traps.

## **UV LIGHT RESISTANCE.**

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 RESISTANCE.**

PVCu in almost all forms has superior fire resistance 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/degree c. Consequently a 2mt length of soil or waste pipe will expand by 2.4mm for a 20 degree rise in temperature. This expansion is taken into consideration in the design of systems and components.

## **BIOLOGICAL AND CHEMICAL RESISTANCE.**

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

## **TIMBER PRESERVATIVES.**

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