

# Cartridge Filters

## DE-WATERING SEDIMENT CONTROL TECHNIQUE

Low Flow Rates	✓	Low Filtration	✓	Sandy Soils	✓
Medium Flow Rates	✓	Medium Filtration	✓	Clayey Soils	✓
High Flow Rates		High Filtration	✓	Polluted Soils	✓



Photo supplied by Catchments & Creeks Pty Ltd

**Photo 1 – Domestic cartridge filter**

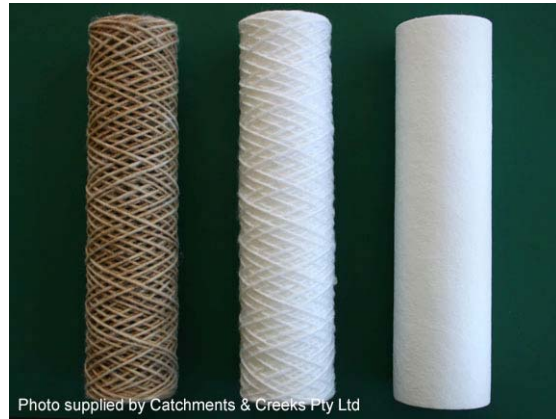


Photo supplied by Catchments & Creeks Pty Ltd

**Photo 2 – Sediment-laden 25 micron string wound cartridge (left), 5 micron string wound cartridge (centre), 1 micron melt spun cartridge (right)**

Cartridge filters can be installed:

- on-line within a de-watering pump's discharge line;
- assembled on transportable skid or trailers in banks of parallel cartridges (for high flow rates), or in series (for increased filtration efficiency).

Cartridge filters typically have a high to very high treatment efficiency. The capture efficiency of cartridge filters is typically in the range of 70 to 90% of the nominal pore size.

Critical particle size of around 0.0005 to 0.1mm (0.5 to 100 microns). Cartridge filters used as domestic rainwater filters capture particles generally in the range of 20 to 100 microns.

The filters used in cartridges systems include: string wound (Photo 2), melt spun cartridges (for micro filtration), and oil adsorption filters.

Industrial cartridge filters are generally able to remove finer particles than sand or bag filters.

Flow rate of around 2 to 3m<sup>3</sup>/hr per 1m long cartridge for a nominated 10 micron.



Photo supplied by Catchments & Creeks Pty Ltd

**Photo 3 – Industrial cartridge filters**



Photos by Siemens, Pentek, & Ametek

**Photo 4 – Cartridge filters**