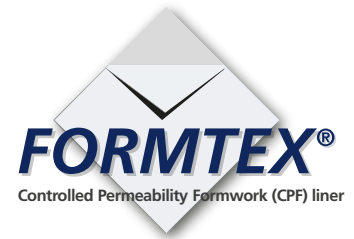
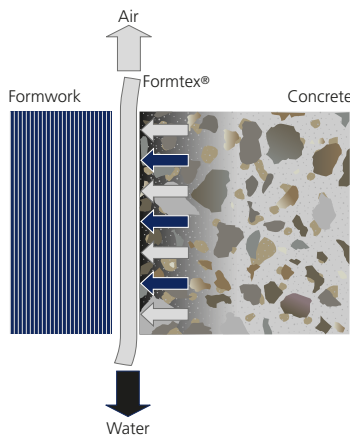


# Function



Formtex® Controlled Permeability Formwork (CPF) liner is a nonwoven fabric made from fine polypropylene fibres needled together in a non-structured order. The fabric is thermally bonded on one side creating a filter, while the non-thermally bonded side functions as a drainage layer. The pore size of the filter is designed to retain cement particles, but to let water pass through, see Figure 3.

Figure 3. The function



When casting against formwork lined with Formtex® typical water drainage is 0.5-3.0 litre/m<sup>2</sup>, depending on the concrete mix design, and the height of the concrete pour, see Figure 4 and 5.

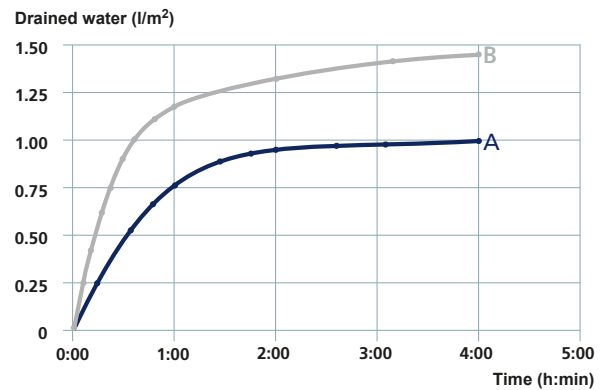
## Concrete mix

Formtex® drains significant quantities of water off any conventional concrete. Tests have been made with two totally different concretes. One with many puzzolans (microsilica and fly ash) and a low w/c ratio, and one with no puzzolans and a high w/c ratio. The mix designs are shown in Table 1 and the result is shown in Figure 4.

Table 1. Types of concrete used

	A	B
Cement	340 kg/m <sup>3</sup>	340 kg/m <sup>3</sup>
Fly Ash	40 kg/m <sup>3</sup>	
Microsilica	20 kg/m <sup>3</sup>	
Plastiziser	2.8 kg/m <sup>3</sup>	1.0 kg/m <sup>3</sup>
Aggregate	1720 kg/m <sup>3</sup>	1850 kg/m <sup>3</sup>
Water/powder	0.37	0.49

Figure 4. Drained water at pour height 0.75 m for the two concretes shown in table 1



## Concrete pour height

The water is pressed out of the concrete due to the hydrostatical pressure from the concrete above. The higher the construction, the more pressure from above. Formtex® does not suck water out of the concrete, but drains excess water from the surface. Figure 5 shows the result of a test made to determine the influence of the concrete pour height on the quantity of the water drained.

Figure 5. Drained water as a function of pour height

