

Zemdrain® Specification Clauses

Zemdrain® MD

1. All formed surface finishes are to be achieved using a Type III controlled permeability formwork (CPF) liner, comprising a filter fabric bonded to a backing grid, Zemdrain® MD or equal approved.
2. The approved Type III CPF liner shall have the following properties:
 - a maximum compression of less than 10 % under a pressure of 200 kPa
 - a maximum pore size of less than 0.050 mm
 - a minimum water retention capacity of 1.30 litres/m²
 - a maximum absorbency of 0.1 litres/m²
3. The approved CPF liner shall have supporting test data certified by an independent testing organization to confirm the achievable improvements to concrete.
4. Certification and independent testing shall demonstrate that the use of the CPF liner improves the performance of a CPF cast concrete against that for conventionally cast concrete. The outer 20 mm of the CPF cast surfaces shall have cement contents of over 75 kg/m³ greater than the control. A minimum improvement of 50 % for surface tensile strength, ISAT, carbonation and chloride ingress is also required. Liners without independent tests to establish the liner performance shall not be approved.
5. The CPF liner shall be installed and used in accordance with the manufacturer's recommendations. The use of release agents is not permitted.
6. Type III, CPF liners can be reused, subject to inspection between pours. Before approval for liner reuse is given, evidence that durability benefits are maintained with reuse must be submitted.
7. A trial panel shall be cast to confirm the suitability of the liner for use with the design mix and formwork
8. Type III, CPF liners are as defined in the Concrete Society / CIRIA Report "Controlled Permeability Formwork" CIRIA C511.

Zemdrain® MD and/or Zemdrain® Classic

1. All formed surface finishes are to be achieved using a controlled permeability formwork (CPF) liner, Zemdrain® MD, Zemdrain® Classic or equal approved.
2. Approved CPF liners shall have the following properties:
 - a maximum compression of 10 % under a pressure of 200 kPa
 - a maximum pore size of 0.050 mm
 - a minimum water retention capacity of 0.35 litres/m²
 - a maximum absorbency of 0.1 litres/m²
3. The approved CPF liner shall have supporting test data certified by an independent testing organization to confirm the achievable improvements to concrete.
4. Certification and independent testing shall demonstrate that the use of the CPF liner improves the performance of a CPF cast concrete against that for conventionally cast concrete. The outer 20 mm of the CPF cast surfaces shall have cement contents of over 75 kg/m³ greater than the control. A minimum improvement of 50 % for surface tensile strength, ISAT, carbonation and chloride ingress is also required. Liners without independent tests to establish the liner performance shall not be approved.
5. The CPF liner shall be installed and used in accordance with the manufacturer's recommendations. The use of release agents is not permitted.
6. Single sheet CPF liners can be used once. Composite sheet/net CPF liners can be reused up to three times, subject to inspection between pours. Before approval for liner reuse is given, evidence that durability benefits are maintained with reuse must be submitted.