



self-consolidating concrete

The solution for civil engineering works repairs

Uniflow[™] is a self-consolidating concrete developed for placement in the most complex and cluttered formwork, without vibration, under the sole effect of its own weight.

The use of the latest generation of plasticizing admixtures allows us to produce a highly fluid concrete without segregation.

Uniflow[™] meets the most stringent performance standards with respect to the workability of the fresh concrete as well as the strength and durability of the hardened concrete.

Placement

The placement of Uniflow[™] uses conventional equipment, i.e., pump, hopper, concrete bucket, or directly from the concrete mixer. The use of vibrators is neither required nor recommended.

Formwork

Uniflow's considerable fluidity demands that special attention be given to the sturdiness and imperviousness of the formwork. The pressure exercised on the walls of the formwork will be greater than that produced by conventional concrete, and directly proportional to the concrete's speed of placement. The faster the placement is, the closer the pressure on the formwork approximates hydrostatic pressure (water pressure).

Curing

Uniflow[™] is a high performance concrete containing a significant quantity of cementitious materials. Adequate curing is of primary importance for obtaining optimal durability. A seven-day water cure is not only recommended, but essential.

Fluidity

Uniflow[™] concrete is distinguished by its great flowability fluidity. Typical slump flow is 650 +/- 50 mm as compared to a slump of 80 +/- 30 mm for conventional concrete. Uniflow's high fluidity allows the concreting of elements with a high concentration of reinforcements or whose complex geometry makes the use of vibrators either difficult or impossible.

Slump flow

Slump





Technical characteristics

Characteristics	Standard	Requirements	Uniflow™
Slump flow	MTQ 3101	675 +/- 50 mm	650 +/- 50 mm
Air content	MTQ 3101	6 to 9 %	6 to 10 %
Flow time	N/A	< 5 s.	2 s.
T50	N/A	2 s. < T50 < 5 s.	4 s.
L box (h1/h2)	N/A	0.8 < (h1/h2) < 1.0	0.9
Filling capacity	N/A	> 60 %	> 80 %
Settlement	N/A	≤ 0.5 %	0.34 %
Compressive strength at 48 hrs.	MTQ 3101	10 MPa	15 MPa
Compressive strength at 28 days	MTQ 3101	35 MPa	55 MPa
Compressive strength at 56 days	N/A	N/A	65 MPa
Adhesion by tensile load	CSA-A23.2-6B	N/A	1.7 MPa
Air-void system	MTQ 3101	≤ 230 µm	90 to 200 µm
Scaling resistance	NQ 2621-900	≤ 0.5 kg/m2	0.0 kg/m2
Ion chloride permeability	CSA A23.1-09	< 1500 coulombs	650 coulombs



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