



CEMEX EVOLUTION™ – Data Sheet

Introduction

CEMEX EVOLUTION™ is an innovative concrete that does not require vibration for placing and compaction. It is able to flow under its own weight, completely filling formwork and achieving full compaction, even in heavily reinforced sections. The hardened concrete is dense, and has the same engineering properties and durability as normal concretes.

Strength Grade

Mix designs are available for concrete in Strength grades from 40 to 60 N/mm².

Higher strength mix can be designed for special cases.

Aggregates Size

CEMEX EVOLUTION™ can be supplied in 20mm and 10mm maximum aggregate sizes.

Cement Content

Depending on the strength grade of the mix selected, the total cementitious content of the mix will typically be in the range 400 and 460 kg/m³

In special cases the cementitious content may fall out outside of this range

Water/Cement Ratio

Depending on the requirements of the mix, the water/cement ratio will typically be in the range 0.36 to 0.40.

In special cases the water cement ratio may fall outside of this range.

Plastic Density

The typical plastic density of CEMEX EVOLUTION™ will be in the range 2400-2500 kg/m³.

Durability

The typical Residual Chloride penetration of a CEMEX EVOLUTION™ will be less than 2000 Coulombs, and can be designed to achieve less than 1000 Coulombs. (ASTM C1202)

Typical Water absorption values for EVOLUTION™ are no more than 1.5% (BS 1881 pt 112)

Typical Water penetration values are less than 10mm (BS EN 12390 Part 8)

Workability

The standard slump test is not suitable for CEMEX EVOLUTION™ due to the highly fluid nature of the concrete. It is suggested that the slump flow test from BS EN 12350 part 8 is adopted to assess the uniformity of the concrete supply.

Depending on the intended use, CEMEX EVOLUTION™ will be supplied to an agreed slump flow value between 500 and 800mm.

Engineering Properties

CEMEX EVOLUTION™ and traditional concrete of the same strength will exhibit similar properties in the hardened state. Structures made with CEMEX EVOLUTION™ can generally be designed using the same design codes as traditionally vibrated concrete.