CASE STUDY

When Ireland’s leading public works contractor needed to extend a tram line in just 36 hours, they approached CEMEX for a building solution. CEMEX responded with Promptis concrete innovation.

The customer needed to complete a newly-ambitious project—the extension of a tram track line required a concrete that could be cast in 16 hours, and be fully hardened, ready to open for traffic the following morning at 1am. Prior to the delivery dates, tests were carried out to optimise the mix design and ensure that the targeted performance could be achieved in the expected cold weather conditions (at 5°C). The team had only one working day and the weekend to prepare the ready-mix plant for the bold project. CEMEX came through and delivered results; only six hours after the last casting, the tram line was handed over to the customer, ready to resume operation immediately.

“Without your team’s dedication and support, we would not have achieved this result.”
Darren Clewane, Contracts Manager for BAM Contractors.

Rapid Hardening Concrete

Promptis. The constructive use of time.
In an ever more demanding and extremely competitive environment, with tight deadlines and even tighter margins, speed and efficiency which save time are critical. Promptis, from CEMEX, is a new rapid hardening concrete solution that can help save valuable hours.

Promptis has similar characteristics to conventional concrete but it reaches accelerated strength after just four hours and still maintains initial flow properties and workability for up to 120 minutes. Formwork can be stripped after only six hours, saving time and money.

It is an ideal solution for projects such as road and rail renovation, where the use of Promptis could help minimise traffic restrictions. The properties of Promptis are the result of a carefully selected combination of specialist admixtures combined with expert mix design.

Promptis has been launched globally rather than just nationally, as it produces consistent results using a broad variety of cements, available in different countries. In addition there is global market demand, with Promptis suitable for use in both ready mix and precast applications.

**ADVANTAGES OF PROMPTIS**

- Framework can be stripped after 6 hours
- Rapid construction programmes are easily achieved
- Ultimate design strengths are normally achieved in less than 7 days
- Faster slip form casting times
- The concrete is easy to compact and finish
- Concrete strengths of up to 40N/mm² are achievable at just 24 hours
- Concrete placed in winter achieves the required strength faster to avoid frost damage
- Promptis can be designed to achieve a range of end performance characteristics

**TECHNICAL DATA**

**Characteristics**
- Promptis complies with BS EN 206-1 and BS 8500-2
- Promptis is available in a range of compressive strength classes
- Promptis can be designed to meet a wide range of exposure classes
- Promptis is generally supplied at S3 consistence class or higher
- Consistence is maintained for up to 120 minutes
- Promptis is suitable for pumping

**Performance**
- High early strengths allowing formwork removal 6hrs after delivery
- Reduced labour costs reducing foot traffic to slabs within 6 hours and vehicle traffic after 24 hours
- Workability maintained for >90 minutes

**Benefits**
- Reduced environmental impact leading to increased productivity
- Reduced labour costs
- Reduced material use and carbon footprint
- Better workflow on site
- A unique concrete solution that existing products cannot provide

**Applications**
- Promptis is a product for a broad range of specific applications:
  - Fast demolding in buildings: columns, walls, beams, slabs, panels
  - Fast demolding in civil engineering: high walls, tunnels, roads
  - Fast demolding in construction: fast building of buildings
  - Renovation and repair of limited time to carry out renovation or repair of structures, reliable performance in a wide variety of applications