

BMQ

On-Site Solution for High Performance Concrete



INTRODUCTION

Choose the innovative concrete solution

BMQ has been a member of Lafarge Canada Inc. since 2021 and serves customers in Eastern Canada (Ontario and Quebec). Its solutions and products add to the value proposition of Lafarge Canada's innovative portfolio and contribute to its position as a global leader in the Canadian market.

Leverage experience

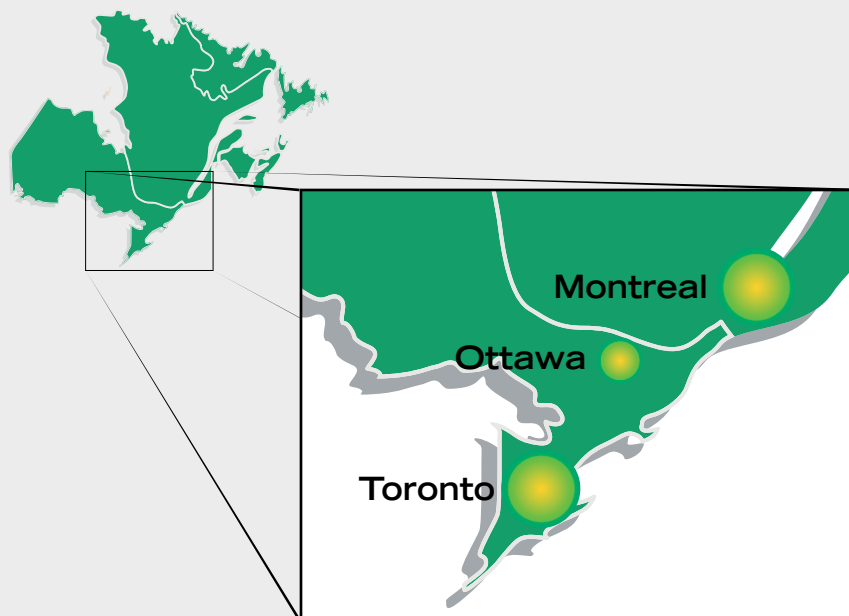
Established in Canada in 1979, BMQ is the leading mobile solution, offering innovative RMX concrete products designed for transportation infrastructure, commercial buildings, industrial facilities, in addition to many other situations, whether for repairing, retrofitting, strengthening, new construction, fast track construction or emergency repairs.

Port, airport & bridge authorities, Ministries of Transportation, railroad operators, power plant & dam operators and various heavy industries, all have something in common: they have completed successful projects with BMQ.

Innovative, efficient and reliable

BMQ exceeds the standards of other volumetric players in the market by offering a turnkey service that stands out, conceptualizing unique mix designs to meet the most demanding construction challenges.

BMQ is the exclusive supplier and manufacturer of Ductal UHPC, CHRONOMax and ADHEMax products, and has the solutions you are looking for! Enjoy a one-stop, clean, worry-free service offered through a fleet of mobile mixer trucks acting like a RMX factory right on site. Traditional cement bags, aggregate heaps and small mixers are a thing of the past. With BMQ, the manufacturing process is reliable, precise, durable and clean.



SERVICE AREA
EASTERN CANADA REGION



VOLUMETRIC TRUCKS AND PAN MIXERS SOLUTION

The mobile mini-plants for High Performance Concrete

Reliable and advanced technologies to meet your most demanding challenges

Certified by BNQ (NQ 2621-905 Normalization Bureau of Québec - certificate N° 589)
and RMCAO (Ready Mix Concrete Association of Ontario)

Accurately meter quantities by mixing only as much as you need

**Superior mechanical properties along with relative impermeability
for outstanding durability, increasing the life of your structure**

High performance cementitious matrix

Economic and efficient

Quality and service

Agile and reliable



CHRONOMax™

Rapid strength for fast and long lasting results.

Product overview

Specifically designed for time sensitive work, the CHRONOMax, CHRONOMax^{SC} and CHRONOMax^{LX} ranges are used in structural elements, emergencies, and fast track road repairs.

Not only is CHRONOMax durable, when produced on site by a BMQ volumetric mixer truck, it is an efficient and reliable solution that complies with the most demanding project schedules, limited space environments, technical specifications and sustainable standards.

CHRONOMax's entry-level mix is a concrete that develops strength very rapidly. When you are working under a tight schedule and need to accelerate your timeline, this product will ensure you deliver your project on time.

CHRONOMax^{SC} offers the same advantage as the entry-level mix, plus all the benefits of a self consolidating concrete mix, which reduces the labor required to place and finish it.

CHRONOMax^{LX} introduces the benefits of latex, including superior durability and ultimate bond strength, to a very rapid strength development concrete, making it an ideal product for various vertical and horizontal structural repair applications. It sets as quickly as the entry-level blend and adheres to all elements¹ with its specially blended latex² formula.

Properties

CHRONOMax entry-level:

- 20 MPa in 3 hours (Ambiant temperature 20°C)
- Strength available from 32 to 50 MPa
- Extremely fast curing time
- Excellent durability with a chloride ion permeability <1000 coulombs @ 56 days

CHRONOMax^{SC}:

- Includes CHRONOMax entry-level properties
- Self compacts into complex forms
- Flow 675±50 mm

CHRONOMax^{LX}:

- Latex modified² to improve bond strength on properly prepared and sound substrate
- Protects steel bars
- Rapid membrane application, within 72 hours, including 1 day wet cure and 2 day dry cure, due to impermeability and quick drying nature of latex concrete
- Excellent bond strength tested by pull out methods according to ACI, Ministry of Transportation and CSA-ACNOR.
- 20 MPa @ 3 hrs
- 35 MPa to 50 MPa @ 28 Days
- Exceptional durability with a chloride ion permeability <300 coulombs @ 56 days
- Scaling: 0,10 kg/m² at 56 cycles
- Freeze Thaw: RDM > 90% at 300 cycles
- Bond strength (CSP 7) > 2,0 MPa

Applications

CHRONOMax entry-level:

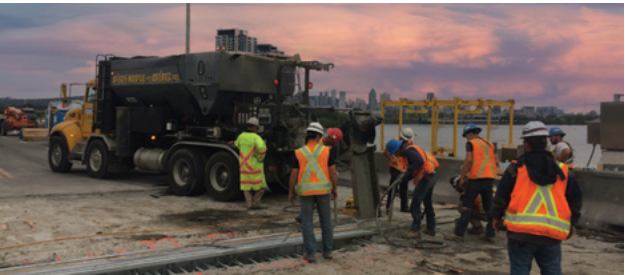
- Road work
- Airport runways
- Concrete pavement
- Heavy industrial

CHRONOMax^{SC}:

- Suited for areas of congested rebar
- No vibration required
- Improve finish aesthetics
- Ease of placement

CHRONOMax^{LX}:

- Overlays
- Heavy industrial
- Transportation infrastructure
- Commercial and institutional buildings



Features & Benefits

- Fast track work
- Emergency repairs
- Extremely fast curing time
- 20 MPa in 3 to 4 hours (Ambiant temperature of 20°C)

¹ Limited to sound parts of the elements.

² **Latex:** Using exclusively styrene butadiene latex to meet or exceed specifications from FHWA (Federal Highway Administration), AASHTO (American Association of State Highway and Transportation Officials), and ACI (American Concrete Institute).



ADHEMax™

The mix that sticks.

Product overview

Concrete structure repairs are demanding, expensive, technical and risky.

ADHEMax will bond to any substrate without requiring to demolish the concrete substrate down to the steel reinforcement bars, which is normally recommended for added mechanical bonding with conventional concrete repairs. In addition, ADHEMax provides exceptional durability.

ADHEMax has been used successfully for several decades, with some of the oldest projects providing well over 30 years of service without requiring any additional maintenance or signs of distress.

ADHEMax has a bond strenght of over 2 MPa, which is far beyond the standards, such as ACI (American Concrete Institute) 1,7 MPa, MTO (Ministry of Transportation from Ontario) 1,3 MPa, and CSA (Canadian Standards Association) 0,9 MPa.

Properties

- Compression (9 - CSA A23.2-9C) 35 MPa
- Air content 2% to 8%
- Air content hardened (%) (ASTM C 457) 2% to 8%
- Bonding (CSA A23.2 - 6 B) > 1.3 MPa
- Exceptional durability with a chloride ion permeability <300 coulombs @ 56 days
- Slump 170±30 mm

Applications

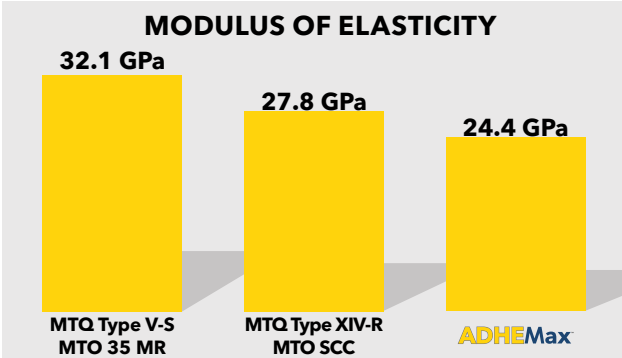
- Repair structural elements
- Floor topping
- Overlay
- Loading docks
- Highway ramps, overpass structures & road repairs

Features & Benefits

- Provides exceptional durability with an expected service life extension exceeding 30 years
- Minimal concrete demolition required
- Clean job site
- Option to use other mixes with same truck loads
- Fast curing and drying allows to accelerate application of membranes and other overlay material
- Reduce curing time requirement
- Pumpable
- Freeze thaw resistance
- Excellent bond strength to any substrate
- Cost effective
- Time efficient

WHY AIR CONTENT?

ACI 548.31R_9 Durability // 4.1.3.2.1 Air content- Unlike conventional concrete, the addition of an air entraining agent is not required in PMC for resistance to freezing and thawing. The latex provides this protection, as some air is entrained by the latex and water during the mixing process. ACI 548.4 has a maximum air content of 6.5%, but not a minimum. LMC does not have the air-void system necessary to pass ASTM C666/C666M (temperature range of -18° C to +4° C [0° F to 40° F]); however, more than 30 years of experience has shown that resistance to freezing and thawing is not a problem with LMC for reasons discussed previously.



ductal[®]

High-strength concrete designed for performance.

Product overview

Ductal is the world leader in ultra-high performance concrete (UHPC) products.

Combining the revolutionary technologies of a high performance cementitious matrix and high strength fibers, Ductal is able to provide superior qualities through a product line that offers a combination of high strength, high durability, excellent crack control, and good flowability.

Superior compressive, tensile and flexural strengths combined with high abrasion resistance and relative impermeability allows for Ductal to be used in a wide range of applications, including some of the most demanding, from bridges, roads and civil structures, to the most creative architectural projects with stringent requirements for energy efficiency and aesthetic qualities.

Ductal Structure is suitable for use in a wide variety of structural applications, particularly where superior mechanical strength, resistance, and enhanced durability are desired. This product is useful for installations in congested areas due to its flowable, self-consolidating consistency.

Properties

- Self-consolidating
- Density: 2,400 kg/m3 (+/- 10 kg/m3)
- Working Time: 90 minutes
- Time of Setting, ASTM C191*: 4 hours
- Compressive Strength, ASTM C39*

12 h	40 MPa
12 h (with applied heat)	80 MPa
24 h	80 MPa
48 h	95 MPa
72 h	110 MPa
7 days	124 MPa
28 days	144 MPa
56 days	150 MPa

- Tensile Strength (28 Days), ASTM C496: 5.5 MPa
- Flexural Strength Ratio (Pp/P1), ASTM C1609 : 1.4
- Modulus of Elasticity (28 Days), ASTM C469*: 45 GPa
- Long-term Shrinkage (90 Days), ASTM C157*: <500 microstrains
- Chloride Ion Penetrability (56 Days), ASTM C1202* (without fibers): <100 coulombs (negligible)
- Freeze-Thaw Resistance (300 Cycles), ASTM C666A*: RDM > 98

**as modified by ASTM C1856*

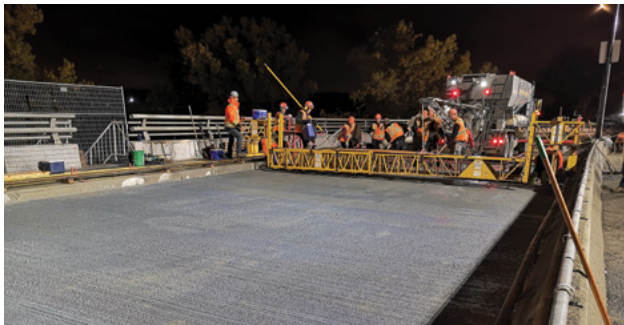


Applications

- Closure pours between precast elements
- Links slabs and expansion joint headers
- Beam end and bearing encasements
- Column and abutment jacketing
- Protection of hydraulic and marine structures
- Slender precast elements

Features & Benefits

- Extended service life in the range of 100 years
- High level of durability against abrasion and environmental conditions
- Very low permeability to liquid and chloride ingress
- High mechanical strengths
- High level of ductility
- Excellent crack control



What are your main requirements?

The choice is yours!

Fast strength development, outstanding adhesion to existing slabs or superior rigidity...

BMQ solutions offers a high performance concrete product range ready for any scenario.

PRODUCT SELECTOR					
PROPERTIES	CHRONOMax	CHRONOMax ^{SC}	CHRONOMax ^{LX}	ADHEMax	ductal [®]
Strength	35 to 50 MPa	35 to 50 MPa	35 MPa	35 to 50 MPa	120 to 150 MPa
Strength Maturity	20 MPa @ 3 hours	20 MPa @ 4 hours	20 MPa @ 3 hours	35 MPa @ 28 days	120 MPa @ 28 days
Durability: Ion Chloride Permeability	<1000 C. @ 56 days	<1000 C. @ 56 days	<300 C. @ 56 days	<300 C. @ 56 days	<100 C. @ 56 days ASTM C1202* (without fibers)
Slump	150±30 mm	-	170±30 mm	170±30 mm	-
Flow	-	675±50 mm	-	-	220±20 mm
Bond Strength	-	-	> 2.0 MPa	> 1.3 MPa	> 2.5 MPa
Scaling	0.20 kg/m² @ 56 cycles	0.20 kg/m² @ 56 cycles	0.10 kg/m² @ 56 cycles	0.10 kg/m² @ 56 cycles	0.01 kg/m² @ 56 cycles
Modulus (GPa)	30	24	24	24	45
Set Time	30 min	30 min	30 min	4 hours	4 hours
Working Time	15 min	15 min	15 min	1 hour	90 min
APPLICATIONS	CHRONOMax	CHRONOMax ^{SC}	CHRONOMax ^{LX}	ADHEMax	ductal [®]
Link Slab			■	■	■
Link Slab Repairs			■	■	■
Structural Fast Track Repairs			■		
Non Structural Fast Track Repairs	■	■			
Structural Reinforcement Repairs		■	■		■
Expansion Joints			■	■	■
Concrete pavement (Highway/Runway)	■				
Spall repairs			■	■	■
Column Jacketing	■	■		■	■
Self consolidate		■			■

Choose the leader in sustainable construction solutions



Sustainability Successes

We believe in building progress, advancing society and uplifting communities. And today we want to play an even bigger role. That's why we are reinventing how the world builds on our way to becoming a net zero company. From greener concretes to recycled aggregates to low carbon cements, **BMQ** - member of Lafarge Canada Inc. - is reinventing how the world builds for people and the planet.

BMQ's range of performance products contribute to sustainability by providing customers with an on-site solution, a clean site when the job is done, no packaging, avoiding the need for additional equipment and storage of raw materials on site, in addition to minimizing curing water needs. What more could you ask for?

BMQ's volumetric business brings the journey to net zero to the next level

Indeed, as a leader in innovative products such as CHRONOMax and ADHEMax high performance concretes, **BMQ** supports Lafarge Canada's vision of being the reference company in sustainable construction solutions in Canada through product and service innovation.

OUR MISSION

Deliver solutions & concrete products adapted to specific needs.

OUR VISION

Through ingenuity, we innovate to deliver solutions.



OUR VALUES

PASSION:

So that our work remains the basis of our balance and our well-being, and not an obligation or a duty.

INTEGRITY:

Being our word and delivering on our promises.

PRIDE:

That everyone lives his passion with satisfaction.

PROSPERITY:

Creating value for the benefit of all.

ADAPTABILITY:

Demonstrate flexibility in all types of situations.



BMQ_BROCHURE_LAFARGE_ECAN_MEMBER_22_EN_25/05/23

Let's talk about your ideas



BMQ Head Office

1522 Boul. des Laurentides, Laval, QC H7M 2N7
Phone: (514) 331-7195 / 1-877-267-7249



The information in this document is provided as is without any guarantees or warranty. Lafarge Canada Inc. and its affiliates make no warranties of any kind, either express or implied, including but not limited to warranties of merchantability, fitness for a particular purpose, of title, or of non-infringement of third party rights. In no case shall the information be considered a part of any terms and conditions of sale of Lafarge Canada. Users shall refer to local product data sheets and specifications for products concerned and the terms and conditions applicable to the sale of a product by Lafarge Canada.