

350351C1- 35 MPa C-1 Concrete

sept 21, 2026

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PRODUCT DESCRIPTION

MAIN USE

The 35 MPa C-1 air-entrained ready-mix concrete is a construction concrete made from GUL-type Portland cement and optimized aggregates. The nominal aggregate size is 10 mm. Suitable for both indoor and outdoor use, this premium-quality concrete is ideal for all types of projects requiring a concrete layer thicker than 5 cm (2 in.). Intended for use when concrete must meet the requirements for Exposure Class C-1 (CSA A23.1–A23.2).

BENEFITS

The use of 35 MPa C-1 ready-mix concrete is intended for environments where the concrete is exposed to chlorides, whether or not subject to freeze-thaw cycles, and where reinforcing steel must be protected from corrosion. For exposure to salt water, the requirements for S-3 exposure must also be met.

Examples: bridge decks, parking garage floors and access ramps, parts of marine structures located within intertidal and splash zones, concrete structures exposed to sea spray, airborne chlorides, and saltwater pools.

INSTALLATION

APPLICATION CONDITIONS

Ensure that the ambient temperature, surface temperature, and product temperature are between 5 °C (40 °F) and 35 °C (95 °F) during application and for a period of 48 hours following application. Saturate the surface to be coated with potable water for 12 to 24 hours before applying the product. Remove excess water before application. Secure the formwork to prevent movement and seal it to prevent moisture loss. If necessary, construct a formwork to support the concrete.

SURFACE PREPARATION

Surfaces to be covered must be structurally sound, clean, and free of any material that could impair adhesion, such as grease, dust, oil, paint, or any other harmful substance. Smooth surfaces must be mechanically roughened.

MIXING

MIXING SMALL QUANTITIES (MINIMUM 1 BAG)

Pour 3.0 liters of potable water per 30-kg (66-lb) bag into a clean container (e.g., a 20.0-liter bucket). Gradually add the dry ingredients while mixing at low speed using an industrial-grade drill equipped with a Jiffier-type mixer. Mix for 3 to 4 minutes. Water requirements depend on several factors; if necessary, add a little water at a time while adhering to the slump specification. Avoid over-thinning.

Note: Never mix less than one bag, and always mix full bags. Never exceed 3.0 liters of water per 30-kg bag.

LARGE-VOLUME MIXING

Use a concrete mixer with an appropriate capacity (the mixer should be filled to a maximum of 3/4 full). Start the mixer. Pour in the required amount of potable water: 3.0 liters of water per 30 kg (66 lb) of dry material, or 110 liters of water per 1,100 kg (2,425 lb) of dry material, or 220 liters of water per 2,200 kg (4,850 lb) of dry material. Gradually add the dry material. Mix for 3 to 4 minutes. Water requirements depend on several factors; if necessary, add a little water at a time and check the slump.

APPLICATION

Mix enough concrete to ensure a steady, continuous flow during placement. Pour the mixture and compact it thoroughly using a tamper. Level the surface using a screed or board with a back-and-forth motion.

Note: Concrete must be placed within 1-1/2 hours after mixing when the ambient temperature is 25 °C (77 °F) or higher, and within 2-1/2 hours if the temperature is below 25 °C (77 °F). Any concrete not used after this time period must be discarded. The higher the temperature, the longer the initial setting time will be.



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FINISHING

Wait until the product has completed its initial set (approximately 3½ hours at 23 °C, 73 °F) before finishing. If finishing is done too early, water from the mix rises to the surface and tends to evaporate too quickly, leaving a crumbly surface with significant efflorescence (whitish deposits). This situation also occurs when the surface is smoothed too much. To achieve a rough texture, finish with a broom or a wooden trowel. For a smooth finish, use a steel finishing trowel. For a textured finish, use a steel trowel and then go over the surface with a brush or broom.

PROTECTION AND CURING

Curing is essential for optimizing the physical properties of concrete and reducing plastic shrinkage. Ideally, keep the surface moist for 3 days after work is completed. Use a curing agent or a jute cloth lightly moistened with water to retain moisture. All curing products used must comply with current standards. Protect finished structures with tarps. Temperature is an important factor to consider for proper curing. Temperatures of 10 °C or higher must be maintained. When the ambient temperature is below 5 °C, insulating blankets or other insulating materials may be sufficient to protect the concrete.

CLEANING

Clean equipment with water before the mixture has hardened. Once the mixture has hardened, only mechanical cleaning will be effective. Throughout the work, carefully remove concrete splashes and stains using burlap and/or a wooden trowel. Avoid using high-pressure cleaning or abrasive techniques, such as sandblasting, glass bead blasting, or similar methods.

PACKAGING

This product is packaged in 30 kg (66 lb) paper bags and 1,100 kg (2,425 lb) superbags. A pallet of 30 kg (66 lb) bags contains 63 bags, and a pallet of superbags contains 2 superbags.

- A 30 kg (66 lb) bag yields approximately 0.014 m³ (0.5 ft³)
- A 1,100 kg (2,425 lb) superbag yields approximately 0.5 m³ (17.7 ft³)
- A 2,200 kg (4,850 lb) supersack yields approximately 1 m³ (35.4 ft³)

STORAGE

INDOOR STORAGE

Store in a cool, dry place. Avoid placing the bags directly on the floor.

OUTDOOR STORAGE

Cover the bags with a waterproof sheet. Do not store directly on the ground.

SHELF LIFE

The storage life is 12 months in unopened and well-protected bags.

FIRST AID

WEAR WATERPROOF GLOVES, such as nitrile,

eye protection, protective clothing, and rubber boots. Do not inhale or swallow dust. Wear a NIOSH-approved respirator (mask), such as an N95, in poorly ventilated areas, during prolonged or repeated use, or when maximum exposure limits may be exceeded. Do not eat, drink, or smoke while using this product. Before handling, read and understand the safety information on this label and on the Safety Data Sheet (SDS) available online at www.daubois.com.

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IF EXPOSED:

Wash the exposed body part and contaminated clothing thoroughly and immediately. In case of eye contact: rinse cautiously with water for several minutes; remove contact lenses if possible; continue rinsing. In case of inhalation: move the person to fresh air and position them comfortably so they can breathe. If swallowed: rinse mouth; DO NOT induce vomiting. In case of burns, skin irritation, a rash, or any other significant symptoms: seek medical attention immediately.

TECHNICAL SUPPORT

Contact Les Produits Daubois Inc. for more information on application methods or conditions, as well as to obtain the most recent version of technical documents.

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WARRANTY

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Technical Data Table

Specifications	Curing Times	Results
Compressive Strength, ASTM C-39	7 days 28 days	30 MPa (4,350 psi) 35 MPa (5,075 psi)
Slump, ASTM C-143	—	80 ± 30 mm (3 ± 1 in)
Density, ASTM C-138	—	2200 kg/m ³ (137 lb/ft ³)
Air content, ASTM C-231	—	6.0% to 9.0%
Chloride ion permeability, ASTM C 1202	91 days	< 1,500 coulombs
Setting time, ASTM C-191	Initial Final	± 3 hours 30 min ± 6 hours 30 min

Note: The results were obtained in a laboratory under controlled conditions (23°C, 50% RH) for a standard sample mixed with the specified amount of water. These results may vary slightly from one sample to another and are intended as an indication of the concrete's performance. They cannot be used to determine whether the product is acceptable or unacceptable.

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Data Sheet for Ontario and Eastern Canada

