

LC-600L

ULTRA PERFORMING MULTI-RANGE WATER- REDUCING ADMIXTURE FOR CONCRETE

DESCRIPTION:

LC-600L is a polycarboxylate-based multi-range, water-reducing admixture for concrete mixes, particularly, where the reduction of cement and carbon is desired. It is designed to facilitate the placing and finishing of concrete while providing control over the set time.

LC-600L is especially beneficial in mixes containing Type II cements, fly ash, and ground granulated blast-furnace slag (GGBFS) where normal set times are needed.

ADVANTAGES:

- Improves quality of concrete by decreasing water-cement ratio
- Concrete set times decrease as the dosage of **LC-600L** increases
- Allows reduction of cement thereby reducing carbon emissions
- Increases compressive and flexural strengths
- Allows levels of fly ash and GGBFS to be *increased* in concrete mixes
- Reduces water content needed for a given workability
- Reduces cracking and drying shrinkage
- Reduces surface bleeding
- Reduces segregation
- Provides superior finishability on all flatwork and pre-cast surfaces
- Improves pumpability and workability of concrete even in mixtures with low contents of cementitious materials
- Provides variable control of setting time and slump-based on a linear dosage rate
- Improves performance over a wide range of cements, fly ashes, silica fumes, GGBFS, and a variety of different mix combinations.

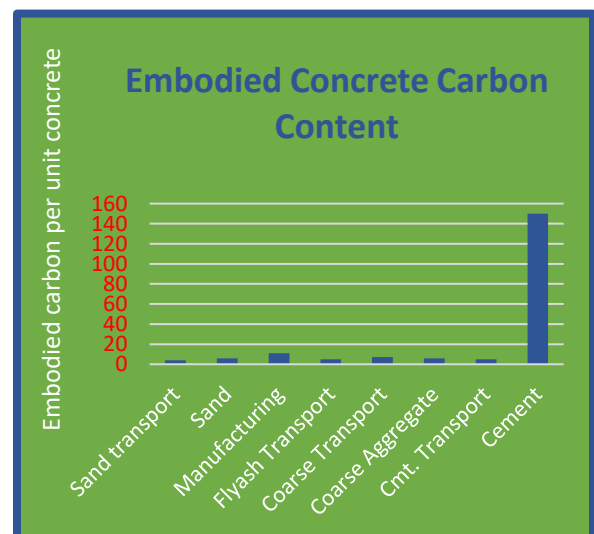
ENVIRONMENT:

Climate change will become irreversible if we do not change how we design and build structures in the future.

Buildings annually create 40% of the worldwide **Carbon** emissions. These emissions come from building operations, building materials, construction, manufacturing, and transportation. To meet anticipated future environmental goals the **Embodied Carbon** emissions from all new building infrastructure and associated materials must be reduced to 65% by **2030**, and to 0% by **2040**.



All concrete ingredients contain some embodied carbon. In the graph below, Portland cement is contributing the largest amounts. The logical approach to reducing embodied carbon in concrete is to decrease the cement, incorporate more supplementary cementitious materials, produce mixes with Type II cement, or use some combination of these three components.



LC-600L is designed to allow the use of these materials together while producing a normal performing concrete mix design that lowers embodied carbon.

MIX PERFORMANCE DATA:

Straight Cement

500 lbs. (297 kg) of Type IL cement per cubic yard (cubic meter)

Slump 7.0 inches (178 mm)

Ambient Temperature 70 F (21 C)

Concrete Temperature 70 F (21 C)

LC 600L Time of Sets		
ozs./cwt. (mL/100 kg)	Initial hrs:mins	Final hrs:mins
Plain	5:18	6:05
5.0 (326)	4:30	5:25
7.0 (456)	4:10	5:05
9.0 (587)	3:45	4:30

LC 600L Compressive Strength		
ozs./cwt. (mL/100 kg)	7 days (MPa)	28 days (MPa)
Plain	4520 (31.2)	5170 (39.4)
5.0 (326)	5120 (35.3)	6220 (42.8)
7.0 (456)	5670 (39.1)	6810 (47.0)
9.0 (587)	6230 (42.9)	7180 (49.5)

*Tests based on controlled laboratory conditions. Field conditions may vary due to differences in local materials. Consult your local RussTech sales technician for aid in developing a mix design for your specific application.

DOSAGE RATES:

LC 600L is recommended for use at a dosage rate of 3 to 8 fluid ounces per 100 pounds (198 to 522 mL per 100 kg) of cementitious for Type A and 9 to 14 fluid ounces per 100 pounds (587 to 913 mL per 100 kg) of cementitious for Type F.

SPECIFICATIONS:

Conforms to:
 ASTM C 494 Types A and F
 AASHTO M 194 Types A and F
 CRD C 87 Types A and F
 All other Federal and State specifications

NON-CORROSIVE:

LC-600L does not contain calcium chloride or any chloride-based components. It will not promote or contribute to corrosion of reinforcing steel in concrete.

STORAGE PRECAUTIONS:

LC-600L may freeze at temperatures below 32 F (2 C). Although freezing does not harm LC-600L, precautions should be taken to protect it from freezing. If it should happen to freeze, thaw, and reconstitute with mechanical agitation. **DO NOT USE PRESSURIZED AIR FOR AGITATION.**

COMPATIBILITY:

LC-600L is compatible with all types of Portland cement, class C and F fly ash, silica fume, fibers, approved air entraining and water-reducing admixtures.

Consult with your local RussTech technical service representative for advice on combining different admixtures.

LC-600L can be used in white, colored, and architectural concrete. For best results, each admixture must be added separately into the concrete mix.

PACKAGING:

55-gallon drums, 275-gallon tote tanks, and bulk tank trucks.

SHELF LIFE:

18 months



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 "We Add The Difference"