SI International System of Units

Low-Carbon Concrete—Code Requirements and Commentary

Reported by ACI Committee 323

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ACI CODE-323-24

(SI Units)

Low-Carbon Concrete—Code Requirements and Commentary

An ACI Standard

Reported by ACI Committee 323

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"Low-Carbon Concrete—Code Requirements and Commentary" ("Code") provides provisions for concrete where reduced global warming potential (GWP) is required. The Code was developed by a consensus process and addresses cast-in-place concrete with specified compressive strength greater than 17.2 MPa and less than or equal to 55.2 MPa. Precast concrete, tremie concrete, auger-cast concrete/grout, shotcrete, pavers, and masonry units are not included in the scope of the Code. This is the first edition of the Code and the scope is limited by the available benchmark data. Future editions of the Code will be broader in scope as data beyond strength benchmarks and for other types of concrete becomes available.

The Code may be adopted as a stand-alone code or can be used in combination with a structural design code or low-carbon material code adopted by an authority having jurisdiction. The Code is in a format that allows reference to a set of chapters based on the structure type. Adoption would include all of Chapters 1 to 4, the applicable Chapter(s) of 5, 6, 7, and/or 8, plus Appendix A. This Code is written in a format that allows reference without change to its language. Therefore, background details or suggestions for carrying out the requirements or intent of the Code provisions cannot be included with the Code itself. The Commentary is provided for this purpose.

Some considerations of the committee in developing the Code are discussed in the Commentary along with references for the user desiring to study individual questions in greater detail.

Keywords: baseline; benchmark; bridge; building; compressive strength; concrete; cradle-to-gate; environmental product declaration (EPD); environment; global warming potential (GWP); hardscape; life cycle assessment (LCA); low-carbon concrete (LCC); low-embodied carbon concrete; pavement; performance requirement; residential; sustainability; sustainable; structure.

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