ACI Committee Document Abstracts

The following ACI documents are, or will soon be, available:

"Selection and Use of Hydraulic Cements—Guide (ACI PRC-225-19) (Updated 2023)"

Reported by ACI Committee 225, Hydraulic Cements

Kenneth G. Kazanis, Chair; Mark R. Lukkarila, Secretary; Michael M. Chehab, Marwan A. Daye, Jonathan E. Dongell, Brett A. Harris, Geoffrey Hichborn, R. Doug Hooton, Eric P. Koehler, Kimberly E. Kurtis, Kirk L. McDonald, Moncef L. Nehdi, James S. Pierce, Nicholas J. Popoff, Chengqing Qi, Oscar Tavares, Paul D. Tennis, James I. Turici Jr., Jay E. Whitt, Matthew D. Wilbanks, and Stephen D. Wilcox, Members; Glen E. Bollin, Larry Rowland, and Bryce P. Simons, Consulting Members.

The committee acknowledges B. Blair and M.D.A. Thomas (deceased) for their contributions to the development of this guide.

Abstract: The update to this guide includes a statement on life-cycle analysis (LCA), Environmental Product Declarations (EPDs), and a new section on carbonation (10.6). This guide covers the influence of cement on the properties of concrete, summarizing the composition and availability of commercial hydraulic cements and the factors affecting their performance in concrete. Cement is the most active component of concrete and usually has the greatest unit cost; therefore, its selection and proper use are imperative to attain the desired balance of properties and cost for a particular concrete mixture. Selection should include consideration of the cement properties in relation to the required performance of the concrete. It includes a discussion of cement types, a brief review of cement chemistry, the influences of chemical admixtures and supplementary cementitious materials, as well as the effects of the environment on cement performance and reviews of the sustainability aspects for the use and manufacture of portland cement. Cement storage, delivery, sampling, and testing of hydraulic cements for conformance to specifications are addressed. Users will learn to recognize when a readily available, general-purpose cement will perform satisfactorily or when conditions require the selection of a cement that meets additional requirements.

"External Curing of Cast-in-Place Concrete—Specification (ACI SPEC-308.1-23)"

Reported by ACI Committee 308, Curing Concrete

Lawrence Homer Taber, Chair; Erik Holck,* Secretary; Oscar R. Antommattei, Jason Barnes, Daron R. Brown, Joshua M. Carroll, Jonathan E. Dongell, Michael Faubel, John D. Fauth, Dale Fisher, Sidney Freedman, David E. Hoyt, Cecil L. Jones, Frank A. Kozeliski, Ronald L. Kozikowski Jr., Mauricio Lopez Casanova,* Darryl Manuel, Stephen F. McDonald, Aimee Pergalsky, David M. Suchorski, Lawrence L. Sutter, Richard E. Van Horn, Ben Wiese, and John B. Wojakowski, Members; Ralph C. Bruno, James N. Cornell, Ben E. Edwards, Jerome H. Ford, R. Doug Hooton, James A. Lee, W. Calvin McCall, and William S. Phelan,* Consulting Members.

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Abstract: This reference specification provides requirements for curing concrete that the architect/engineer can apply to any construction project by citing it in the project specification. Checklists are provided to assist the architect/engineer in supplementing the provisions of this reference specification as needed by designating or specifying customized project requirements.

This specification provides requirements for various methods for the external curing of concrete. These methods are not necessarily equal in effectiveness, cost, effect on the project schedule, or impact on other aspects of the project. Provisions governing initial, final, and termination of curing are included.

This specification addresses external curing methods applied after the placement of cast-in-place concrete. While internal curing (use of saturated lightweight aggregate or other materials to provide supplemental water) and accelerated curing (heat curing) shall also use external curing methods, not all aspects of internal and accelerated curing are included.