

IN-LB

Inch-Pound Units

SI

International System of Units

ACI 207.4R-20

Report on Cooling and Insulating Systems for Mass Concrete

Reported by ACI Committee 207



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Report on Cooling and Insulating Systems for Mass Concrete

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The need to control volume change induced primarily by temperature change in mass concrete often requires thermal control of concrete. This report reviews these thermal control methods such as precooling, postcooling, and insulating systems. A simplified method for computing the temperature of freshly mixed concrete cooled by various systems is also presented.

Keywords: cement content; coarse aggregate; creep; formwork; heat of hydration; mass concrete; modulus of elasticity; precooling; postcooling; pozzolan; restraint; specific heat; strain; stress; temperature rise; tensile strength; thermal conductivity; thermal diffusivity; thermal expansion; thermal gradient; thermal shock.

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CONTENTS

CHAPTER 1—INTRODUCTION AND SCOPE, p. 2

- 1.1—Scope and objective, p. 2
- 1.2—Historical background, p. 2
- 1.3—Types of structures and temperature controls, p. 2
- 1.4—Construction practices for temperature control, p. 3
- 1.5—Instrumentation, p. 3

CHAPTER 2—PRECOOLING SYSTEMS, p. 3

- 2.1—General, p. 3
- 2.2—Heat exchange, p. 3
- 2.3—Batch water, p. 5
- 2.4—Aggregate cooling, p. 6
- 2.5—Cementitious materials, p. 8
- 2.6—Heat gains during concreting operations, p. 8
- 2.7—Refrigeration plant capacity, p. 8
- 2.8—Placement area, p. 9

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