

3. The Contractor shall determine the expected heat of hydration for the concrete batch by testing at least 1m³ insulated concrete cubes, in accordance with the Specification clauses for the trial mixes.
4. For concrete sections greater than 1000 mm thick, the Contractor shall submit to the Engineer for approval detailed proposals of the measures to be taken. These measures shall include but are not limited to: building mock-ups; control of concrete mix constituents; curing water; formwork type; surface insulation; and, cooling by embedded pipes. All submissions shall be based on measured values of heat of hydration generated by the proposed mix to meet the criteria set out below:
 - a) Maximum temperature difference between the core and the surface of any pour. Design target 15°C. Field maximum 20°C.
 - b) Maximum temperature difference between a new pour and a previous pour. Design target 12°C. Field maximum 15°C.
 - c) Absolute maximum temperature anywhere in a pour. Design target 60°C. Field maximum 70°C.
 - d) The Contractor shall install instrumentation in the Works to verify compliance with the above criteria. Temperature measurements shall be made by means of thermocouples positioned in a line perpendicular to the concrete faces. The thermocouples shall be fixed: at the concrete faces; at the centre of the section; and at equal intervals of approximately 300mm.
 - e) Temperatures shall be measured and logged continuously from the start of the pour until instructed to stop by the Engineer. The Contractor shall submit to the Engineer for approval details of the proposed methods and equipment for the measuring and logging of temperatures. An automatic data logger or other suitable device shall log data. The equipment shall be capable of reading all thermocouples in less than one minute and results shall be submitted to the Engineer on a daily basis.
- H. If temperature measurements exceed any of the criteria above then action shall be taken in accordance with the clauses on defective concrete.
- I. Concrete shall be compacted in its final position within 30 minutes of discharge from the mixer unless carried in purpose made agitators operating continuously, when the time shall be within 1 hour of the introduction of cement to the mix and within 30 minutes of discharge from the agitator.
- J. Precautions shall be taken to ensure that the loss of slump due to temperature rise