

Section 974
**GUIDELINES FOR PORTLAND CEMENT CONCRETE MIX DESIGN TRIAL
BATCHES**

References:

UDOT STANDARD SPECIFICATIONS
UDOT PROJECT SPECIAL PROVISIONS
UDOT MINIMUM SAMPLING AND TESTING REQUIREMENTS

974.01 Objectives

The objective in trial batching for concrete mix designs is to determine if the material that will be used meets requirements.

974.02 Quality Tests

Coarse and fine aggregates intended for use by the contractor or supplier for the project must be tested and meet the gradation and quality tests as outlined in the UDOT Standard Specifications, Section 03055 or applicable UDOT Project Special Provision.

974.03 Materials for Mix Design

Use the same components in the mix design trial batches that are to be used in the project. Design trial batch component quantities to meet the tolerances of AASHTO M 157 when used in the project. Accelerators and site-added air-entrainment can be incorporated in the trial batch but are not required. All materials must meet UDOT Standard Specifications, Section 03055 or applicable UDOT Project Special Provision.

974.05 Batching Procedure

A Department TTQP Qualified (Concrete Testing Technician and Concrete Strength Testing Technician) representative may witness the trial batch procedure.

Laboratory trial batches will be batched and mixed in accordance with AASHTO R 39: Making and Curing Concrete Test Specimens in the Laboratory.

Trial batches performed outside a UDOT qualified laboratory will be batched and mixed in accordance with AASHTO M 157: Ready-Mixed Concrete.

Designate the design water-cement ratio for the mix and match the trial batch to that design. The design water-cement ratio must be the maximum water cement ratio that will be batched for product delivery, within the batching tolerances of AASHTO M157. This design water-cement ratio may be below the maximum allowed in the general parameters of the UDOT specification.

Provide documentation to the Department, including individual batching weights for each component, batch plant tickets as applicable, and calculations showing the deviations from the

design as verified by the qualified technician with his or her signature with any proposed mix design requiring a trial batch.

974.06 Testing Procedure

Test in accordance with the applicable UDOT Standard Specification, UDOT Project Special Provision, and UDOT Minimum Sampling and Testing Requirements.