

Section 1015– Materials Testing Calculation

Construction material quality is controlled and assured by a variety of measurement and testing procedures. Quality acceptance is based on UDOT Standard Specification or a Project Specific Specification. Acceptance values may be derived from reported calculation results. Reported values may vary by following different calculating procedures or applying different rounding methods. This section outlines the standard calculation procedure and rounding method applied by UDOT qualified labs.

1015.1 Calculation Device

Suggested calculation device used for calculating reported material values should carry at least 16 significant digits into the calculation. Calculation devices carrying less than 16 significant digits such as handheld calculator may produce same result in most cases. In the event of any different reporting value caused by an unsuggested calculation device, the suggested calculation device's result will be the governing value.

1015.2 Initial Data

A calculation starts with an unmodified measurement value or testing value from a testing device, without any rounding or truncating in the middle of the calculation.

1015.3 Rounding Calculation Results

Rounding is the last step of calculation and only applied to reported value. When the next digit after the last digit to be retained is less than 5, the last retained digit remains unchanged; when the next digit after the last digit to be retained is greater than or equal to 5, the last retained digit increases by 1.

1015.4 Constant Values Involved in Calculation

Any constant value (such as π and e) used in the calculation must be the default value from the calculation device.

Note: When there is a conflict between the above rules and AASHTO, ASTM or UDOT test methods, the specific test method shall apply.