

Memo

Address

To CETANZ (Danny Wyatt – Chair)
IANZ (Jason Roberts – Programme Manager)
Cc Adam Leslie, David Alabaster, Portly Griffiths
From Grant Bosma
Date 29/08/2025
Subject The Use of NZTA T28 with Sub-Base Aggregates

All

Recent experience using NZTA T28 to determine the Maximum Dry Density (MDD) and Optimum Water Content for NZTA M03 sub-base aggregates has identified that the formula in clause 6 (d) which mathematically determines the MDD for the whole aggregate returns anomalous results for AP 65 aggregate.

This appears to be caused by the higher volume of coarse aggregate (i.e. greater than 26.5mm) removed from the test specimen and recombined using the formula of 6 (d) (which is derived from ASTM D4718).

T28 is reliable for AP 40 aggregates compliant with NZTA M04.

Consequently review of the T28 process is needed. Until this is complete the following steps should be followed:

1. For AP 40 basecourse aggregates and finer follow T28.
2. For AP 65 aggregate or coarser either:
 - a. Scalp the aggregate at 37.5mm instead of 26.5mm as in clause 5.3. Note that the Solid Density and Water Content steps should use these aggregate fractions, or
 - b. Omit the scalping step of clause 5.3.1 and test the whole sample. It is expected that this will degrade the reproducibility for the test, or
 - c. Use the method of NZS 4402 Test 4.1.3.

Please annotate test reports as appropriate listing any deviations from the T28 procedure.

Regards



Grant Bosma
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