State of Nevada
Department of Transportation
Materials Division

STANDARD METHOD OF TEST FOR MAKING AND CURING GROUT OR MORTAR COMPRESSION TEST SPECIMENS IN THE FIELD

SCOPE

This test method covers the procedures for making and curing specimens of masonry grout or mortar in the field for compressive strength tests.

APPARATUS

1. Cylindrical molds, with non-absorbent surfaces, substantial enough to hold their shape during the molding of test specimens. The approved standard mold is 100 mm x 200 mm (4 in. x 8 in.).

2. Mallet, with a rubber or rawhide head weighing 0.60 ± 0.02 kg (1.25 ± 0.50 lb).

3. Shovel, pail, trowel, scoop, etc.

4. Suitable pan, wheelbarrow, or nonabsorbent mixing board of sufficient capacity to allow mixing of the entire sample.

SAMPLING

Obtain a representative sample per Test Method Nev. T425. The item being constructed shall be noted on NDOT form 020-017.

PROCEDURE

1. Specimens shall be molded on a level, rigid surface, free of vibration or other disturbances at a place as close as practicable to the location where they are to be stored. If it is not practicable to mold the specimens where they will be stored, they may be moved to the place of storage immediately after being struck off. All jarring, striking, tilting, or scarring the surface of the completed specimens shall be avoided when moving them to the storage area. Specimens shall be molded on site and brought to the storage place as soon as possible.

2. Thoroughly mix or agitate the grout to obtain a fully representative mix and place into a 4 in. x 8 in. mold using a scoop.

3. Grout/Mortar without coarse aggregate; fill the mold in one lift and tap the sides of the mold by hand or with the mallet, 10 – 15 times to release air bubbles.

   Grout/Mortar with coarse aggregate; prepare specimens according to Test Method Nev. T428.

4. Striking off and covering. The surface of the grout/mortar shall be struck off, without undue manipulation, using a wood float or trowel. All completed specimens shall be covered immediately using the lid provided with the mold, to prevent loss of moisture, seal the lid with duct tape. On the mold lid write the contract number, cylinder set number, quantity of cylinders (Ex. 1 of 3), mix design number and date.

NUMBER OF SPECIMENS

A minimum of three specimens shall be made for each test. These will be used to determine the 28-day strength. Additional specimens may be made for informational purposes if desired.

CURING SPECIMENS

During the first 48 hours of initial curing and after molding, store all test specimens in the same location under the same conditions that maintain the temperature immediately adjacent to the specimens in the range of 16°C to 27°C (60°F to 80°F) and prevent loss of moisture from the specimens. Storage temperatures may be regulated by means of ventilation or by evaporation of water from sand or burlap (temperature within damp sand and under wet burlap or similar materials will always be lower than the temperature in the surrounding atmosphere if evaporation takes place), or by using heating devices such as stoves, electric light bulbs, or thermostatically controlled heating cables. A temperature record of the specimens shall be established by means of maximum-minimum thermometer, record the high and low temperature on NDOT form 020-017 under remarks. Store specimens in tightly constructed, insulated, firmly braced wooden boxes, damp sand pits, temporary buildings at construction sites, under wet burlap in favorable weather, or in heavyweight closed plastic bags, or use other suitable methods, provided the foregoing requirements limiting specimen temperature and moisture loss are met. Remove specimens from storage and ship directly to the concrete laboratory as soon as possible after the initial field storage of 48 hours.