



**Ministry of Forests and Range
Engineering Branch, Field Operations Division**

MFR Bridge Field Grouting Sampling Procedure

This document provides procedures for making and curing cylinder specimens from representative samples of fresh grout being placed on Ministry of Forests and Range bridges in the field.

Samples shall be taken during the field grouting processes for all Ministry of Forests and Range (including BCTS) bridges incorporating field grouted structural connections. These include:

- precast concrete deck panels on steel or concrete girders, and
 - precast concrete slab girders with grouted shear key details.
1. Sampling of the grout shall occur at various times through the field grouting process, at roughly even intervals as the field grouting process progresses.
 2. The samples shall be taken using the MFR supplied 50mm diameter X 100mm long plastic cylindrical molds.
 3. A minimum of 3 samples of each type of grout being used shall be taken using these procedures or as directed by the responsible Ministry Bridge Engineer.
 4. Where Target Traffic Patch is used, a minimum of 3 samples of each of the coarse and fine grout shall be taken. Typically, coarse grout is used in the shear connections on slab bridges and for stud grout pockets and fine grout is used in deck panel joints for precast deck panel and girder composite action structures.
 5. Sampling procedure:
 - a. A sample of representative fully mixed grout that is ready for placing shall be taken.
 - b. Fill a cylindrical mold approximately halfway with grout.
 - c. Using a blunt non absorbent rod, approximately 15mm in diameter and 250mm in length (such as a spike head), uniformly over the cross section, rod the grout to the bottom of the mold 15 times.
 - d. Slightly overfill the mold with the second layer of grout and rod 15 times, evenly distributing over the cross section, and approximately 13mm into the bottom layer.
 - e. Strike off the top surface of the mold with a flat edge trowel, or other suitable straightedge, to remove excess grout and create a flat top surface.
 - f. Cover the mold with a damp cloth or paper towel and set the sample aside on site in a safe, flat location where the mold will not be disturbed for a minimum of 12 hours or overnight. The location should be representative of the conditions of the placed grout such as on the deck of the grouted surface or on the inside flange of a steel girder. Longer field curing times shall be at the discretion of the Ministry Bridge Engineer.
 - g. Ensure that a supplied, self adhesive, label is completed and placed on each grout sample.
 6. Grout samples shall be provided to the MFR Bridge Engineer or provided to the individual identified in contract documents or specifications.