

TEST METHOD FOR BOND STRENGTH BY TENSILE LOAD

1. SCOPE

1.1 This method covers the apparatus and procedure to determine the bond strength of toppings to existing concrete.

2. REFERENCES

2.1 CSA 23.2-6B Test to Determine Adhesion by Tensile Load

3. PROCEDURES

3.1 Procedures of CSA Standard A23.2-6B shall be followed, except as noted below.

4. EXCEPTIONS

4.1 APPARATUS

4.1.1 LOAD INDICATION DEVICE: If the load indicator is a dial type device, the smallest increment on the graduated scale shall be no more than 0.5 kN of tensile load. The full scale load shall be no more than 25 kN. If the load indicator is a digital type device, the numerical increment shall be no more than 0.1 kN. Both types of load indicators shall be equipped with a suitable device indicating the maximum load applied until reset.

4.1.2 100N EQUIVALENT LABEL FOR LOADING RATE CONTROL: If the load indication device does not show the load directly or not show the load in N or kN, a label or sticker showing what is equivalent to 100 N shall be affixed close to the load indication device on the apparatus.

4.1.3 ACCURACY: The accuracy of the testing apparatus shall be verified every 12 months. The percentage of error for the loads between 5% and 95% of the full scale shall not exceed $\pm 2\%$ of the indicated load.

4.1.4 CORING DRILL: The core bit shall have an inner diameter between 94 and 104 mm.

4.2 PROCEDURE

4.2.1 When recording the load at failure, record the load to the nearest 0.1 kN for digital type device or record the load to the nearest estimated 0.25 kN for dial type device.

4.2.2 Retest, as specified by Section 5, Unsatisfactory Tests of CSA A23.2 6B, shall be performed by either re-attaching the plate to cleaned original core surface or recore within 30 cm of original core location.

4.2.3 If the type of failure is (d) "separation of the epoxy compound and the cap or the topping" and the calculated bond strength is higher than the specified strength, verify whether the depth of coring is 30 mm into the underlying concrete by removing the core. If the coring is 30 mm into the underlying concrete, record the calculated result. If the coring is not 30 mm into the underlying concrete or the coring depth cannot be verified, a retest shall be performed within 30 cm of original core location.