

Job Task Analysis for ACI Certification of EN Standards Concrete Compressive Strength Testing Technician

RESOURCES:

EN 12390-1: 2021 Testing hardened concrete Part 1: Shape, dimensions and other requirements for specimens and moulds

EN 12390-3: 2019 Testing hardened concrete Part 3: Compressive strength of test specimens

EN 12390-7: 2019 Testing hardened concrete Part 7: Density of hardened concrete

EN 12390-1: 2021 Testing hardened concrete Part 1: Shape, dimensions and other requirements for specimens and moulds

- Understand the scope of the standard
- Know the definitions of nominal size and designated size
- Know the nominal sizes for cubes, cylinders and prisms
- Know the requirements for and perform dimensional measurements of test specimens
- Know the requirements for and perform checks of flatness, perpendicularity and straightness of test specimens
- Know the general requirements for moulds
- Know the tolerance requirements for test specimens
- Understand the measurement procedure for test specimens cast in calibrated moulds

EN 12390-3: 2019 Testing hardened concrete Part 3: Compressive strength of test specimens

- Understand the scope and principal of the standard
- Understand the apparatus required to perform tests
- Know the dimensional limitations of test specimens and applicable methods of adjustment
- Know and perform additional dimensional measurements for specimens outside of tolerances for designated size
- Know what to do with damaged or very poorly made specimens
- Know the time limit for testing specimens after removal from curing
- Know the temperature requirements of the test facility
- Know the ambient condition requirements for the test specimens
- Know and perform the procedure for positioning and centring specimens in the testing machine
- Know and perform the procedure for initial loading and its limits
- Know and perform the procedure for applying the test load at the correct loading rate
- Know and perform the procedures for applying the load to failure
- Know and perform the assessment of failure type
- Know and perform the calculation of test results, including the proper reporting of compressive strength
- Know which information is to be included on test reports

EN 12390-7: 2019 Testing hardened concrete Part 7: Density of hardened concrete

- Understand the scope of the standard
- Know the required apparatus for the test method
- Know the requirements for specimens to be tested
- Know and perform the methods for the determination of mass of a specimen
- Know and perform the methods for the determination of volume of a specimen
- Know and perform the required calculations, and the correct reporting of density
- Know the requirements of the test report