Strength of concrete is important in the analysis of structures. Strength of concrete can be determined as destructive or non destructive. In order to determine the strength of concrete as destructive, core is taken from concrete parts of the structure and uniaxial compressive strength test is applied in the laboratory. In contrast, strength of concrete can be determined as non destructive in situ by seismic ultrasonic technique. In this study, seismic ultrasonic P wave velocity measurements. Schmidt hammer test in situ and core sampling along with uniaxial compressive test are carried out in order to determine the strength of concrete in existing structures in Bornova district of İzmir. Seismic ultrasonic P wave velocity measurements in situ were also applied on the core. The concrete strength values obtained from techniques applied in study were compared and error values are determined. By seismic ultrasonic P wave velocity measurements with error value %5 strength of concrete is determined quickly without any destruction on structures studied.