Surface Deformation

Laser Scanning is one of the newest surveying technologies available allowing measurements to be obtained from objects with little or no physical contact, providing for a safer work environment. The Laser Scanner captures data at a rate of 1 million readings per second, producing data in mass quantities and at a denser quality than conventional surveying methods. The individual points are joined together into Point Clouds. Each Point Cloud contains millions of points, with each point in the cloud having 3D (X, Y, Z) coordinates with an accuracy of ± ⅛”.

Falk PL utilized Laser Scanning during the course of the project shown. The face of the building is mapped to show deviations in the surface of the wall (Figure 1). During this job, the wall is scanned, with a point being measured approximately every ¼”. The resulting Point Cloud (Figure 2) captures the points measured on the face of the building. The data is then brought back to the office for processing where the points are made into a 3D surface map (Figure 3). The date was then transformed to a color map (Figure 4) where a change in color depicts the deviation from an established vertical plane near the bottom of the wall.

This information was successfully used by the client to resolve problems with the building surface and brick adherence.