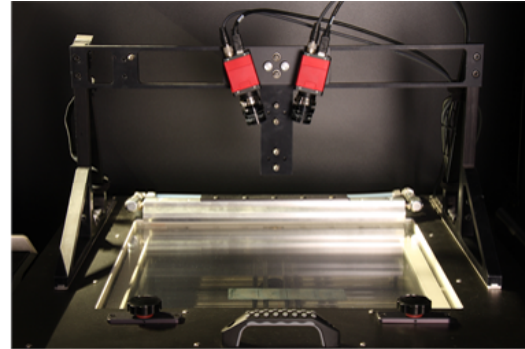


Digital Image Correlation

Technical Explanation

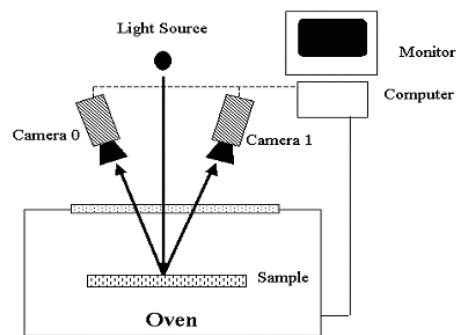
Digital Image Correlation is a non-contact, full-field optical technique for measuring both in-plane and out-of-plane displacements of an object surface. A high contrast, random speckle pattern is applied to the surface of interest. Two cameras are mounted above the oven, viewing the sample from different angles as shown in the figure below.



Two simultaneous images from both cameras are digitized. Software identifies the same point on the surface from both perspectives, using pattern recognition of the speckles within a small pixel window.

Using the principle of stereo triangulation, the spatial position of the pixel window relative to the cameras is determined in 3D space. Stepping the pixel window across the sample, the warpage of the surface can be mapped out in 3 axes.

Diagram



Digital Image Correlation Configuration

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