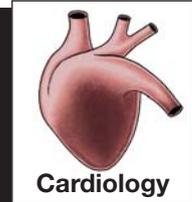


Application

Stents: Quality control of medical implants

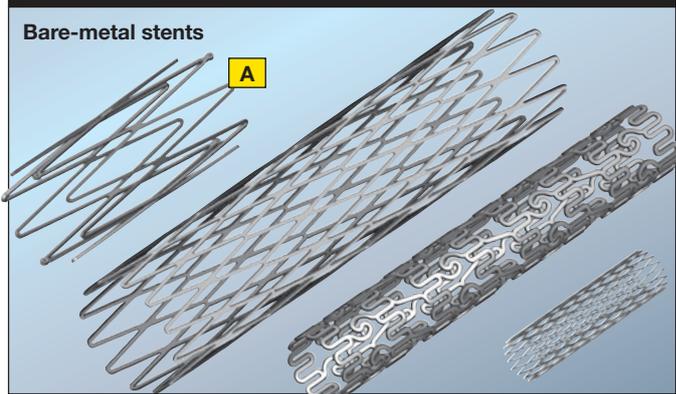
Geometry, texture and dimension analysis of stents
A novel development in automated surface inspection and analysis



Optical scheme
Bright-field Illumination
Stent Profile

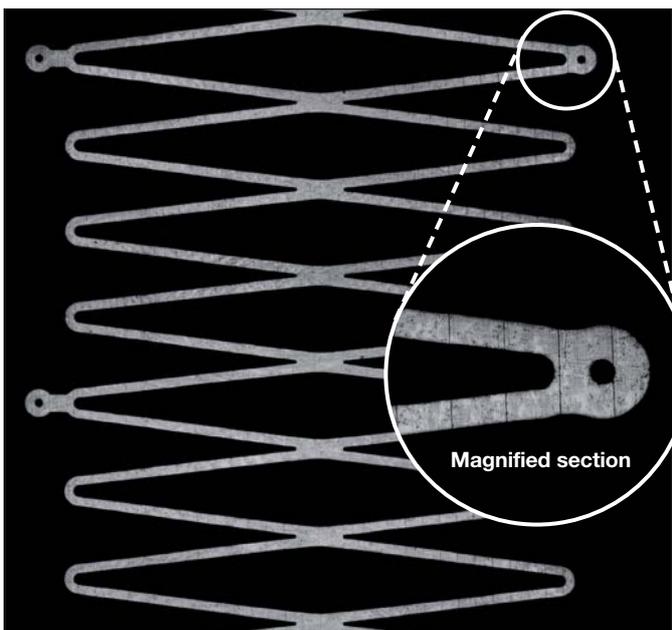
Geometry, texture and dimension analysis of stents. The stent is rotated by a motorized rotation stage and an unwound 2D plane image of the mesh structure is acquired. The image is recorded using a Line Scan Camera with integrated bright-field illumination.

A stent is a medical implant which is inserted into hollow organs to counteract or prevent disease-induced or localized restrictions in flow. In 2008, some 268 500 stents were implanted in Germany alone. Stents come in many different shapes and sizes – to meet the needs of people of all ages (even toddlers!) and the original uses and properties of the various organs or vessels.



Technical Data	
Measuring Range	76 mm
Working Distance	49 mm
Resolution	10 µm
Depth of Field	0.3 mm
Camera Configuration	
Camera:	SK8160GKO-LB
Sensor Length	40.80 mm
Number of Pixels	8160
Line Frequency	0.05-7 kHz
Interface	Gigabit Ethernet

Unwound 2D plane image of stent A



Line Scan Cameras with integrated bright field illumination

Illumination and image acquisition techniques that are well adapted to the object properties emphasize the object features of interest. When using directed bright-field illumination, the beam is emitted in the same direction as the imaging camera. The light that is reflected back directly into the camera is from surfaces parallel with the sensor, producing the lighter areas in the camera image, while textured surfaces and bevelled edges appear dark.

Notes
