



What is bread?

Bread is a staple food made from flour, water, yeast, and salt. It's typically baked, resulting in a soft interior with a crusty exterior. Bread comes in various forms, such as loaves, rolls, or flatbreads, and it is consumed worldwide in diverse cuisines. It's a versatile base for sandwiches, accompanies meals, and is enjoyed with toppings like butter, jam, or cheese.

Application overview

+ BREAD

With SENSURE SYNAPSE, it is possible to **measure numerous product features** (a wide set is included in the system), such as shape, size, and colour, using **2D technologies** (industrial cameras) and perform a full 3D product profile using **3D technology** (laser profilometer). SENSURE solutions also allow for the inspection of the bottom part of products.

Thanks to the flexibility of the solutions, it is possible to **integrate the vision systems into existing production lines and to customize rejection mechanisms** (traps, individual/multiple retractable belts, robots, etc.) based on the size and shape of the products, and the speed of the line.

Vision system can also be installed in **different position of the line** (dough control, inspection before/after oven, etc.).

Using **SENSURE SYNAPSE ensures reliable, repeatable, and accurate measurements**, even at high line speed, with the added benefit of all data being saved in a SQL database. It is also possible to **automatically adjust the parameters of individual processing stages** based on the analysis of their outputs and product information.

Upper Surface analysis

Shape/Size

Overall area calculation, perimeter, cracks detection, Min/Max axis.

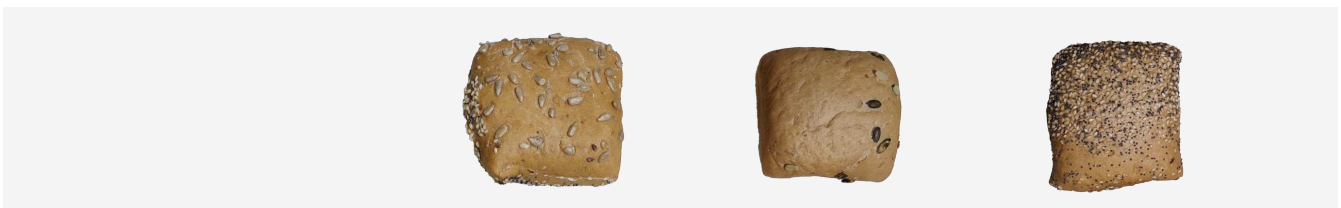


Product color/Spots

Average color (excluding or not toppings), edge/contour defects, and area calculation for spots. Values can also be provided in L*a*b and BCU.

Topping/Seeding conformity

Percentage of the surface coverage, distribution (i.e. seed voids, etc.), and color.



Bottom Surface analysis

Product color/Spots

Average color (excluding or not any anomalies like spots, etc) and area calculation for spots. Values can also be provided in L*a*b and BCU.

Three-dimensional analysis

Slope

Curvature of the top surface of the products, flatness planarity, etc.

Height/Volume

Min/Max peaks, average height, volume, etc.