

# Линия ламинирования для крекеров

ПИЩЕВЫЕ ЛИНИИ

## **ТЕХ. ХАРАКТЕРИСТИКИ**

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The **hard biscuit** is one of the first examples of packaged bakery products that can be remembered. The same etymology of the word biscuit comes from the Latin "bis coctus" which means cooked twice, to indicate a dry product, suitable to be preserved for a long time. Sailors' biscuits were the first example of printed biscuits and in some areas the laminated biscuit is also called "biscuit de mer". These products have a fairly well-aerated structure with a rather low specific weight: therefore they are well suited to being soaked in hot drinks. They are fairly crunchy biscuits, just hard on the first bite and then crumbly on the palate, leaving the typical vanilla flavor in the mouth. Within the family of dry biscuits we find the typical French "Marie" and the "Petit Beurre", the English "Oswego", "gem biscuits" and "cabin", but also the families of "cream crackers", the "soda crackers", "snack crackers" and "water crackers". The main ingredient of this family of products is flour and its types, since the dry product is mainly composed of flour and water, with a modest amount of sugar and fat.





In any type of **laminated biscuit** there are the following process phases: the preparation of the dough, its fermentation or stasis (in the case of some crackers or semi-hard biscuits), the formation of the dough, its sheeting (in the case of some recipes), the reduction of the thickness of the final sheet and subsequent cutting, baking and cooling before packaging. Laser provides an integrated solution of the whole process from the beginning to the end with the experience of more than 500 lines installed in the world in the last 20 years. This allows to obtain an optimal result, constant over time and efficient in all steps.



3  
FEEDING  
SOLUTIONS

50<sup>+</sup>  
MIXERS MANUFACTURED  
EVERY YEAR

4  
TYPES  
OF TUNNEL  
OVEN

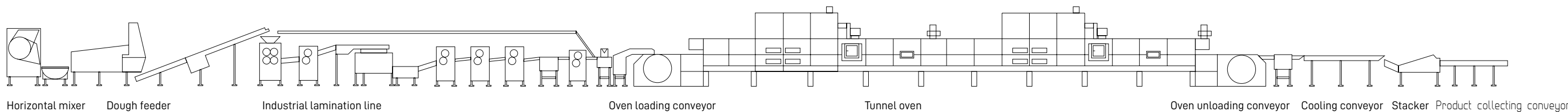
3.5<sup>+</sup>  
KM OF COOLING CONVEYORS  
MANUFACTURED  
EVERY YEAR

30<sup>+</sup>  
PRODUCTION LINES  
INSTALLED EVERY  
YEAR

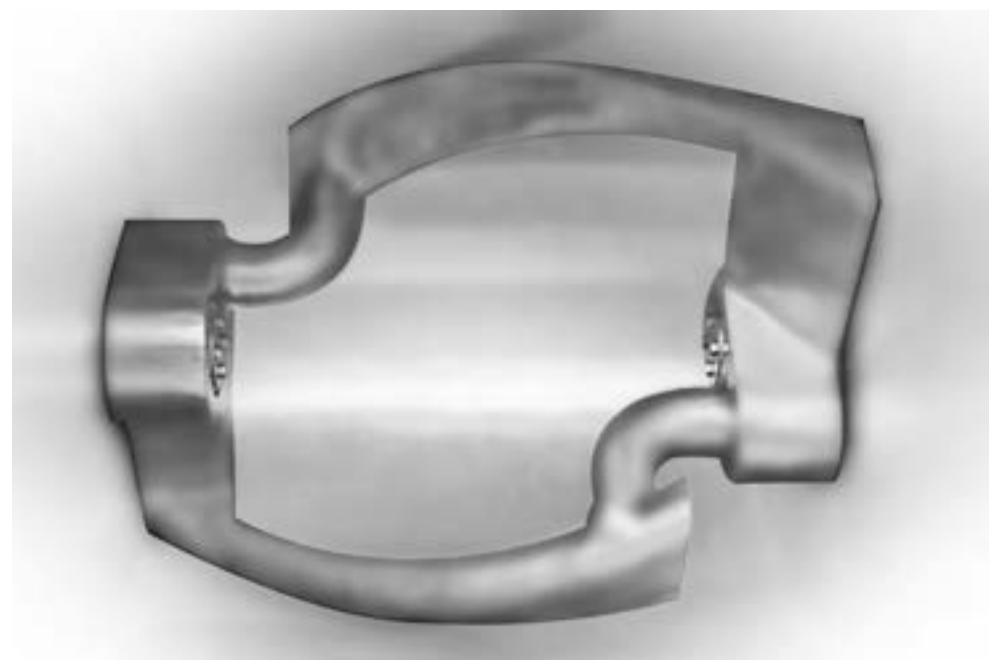
20  
DOUGH SHEETS  
ON CRACKER  
PRODUCTS

50<sup>+</sup>  
SOLUTIONS FOR  
CUSTOMIZING THE  
FINAL PRODUCT

99  
RECIPES  
STORED



50 MIXERS MANUFACTURED  
EVERY YEAR



The **dough** is the first phase of the process and one of the most critical: great importance is given to the homogeneity of the dough and its characteristics. How the ingredients are dosed, blended and incorporated, producing the correct amount of gluten during mixing and developing the correct temperature is essential to have a constant and machinable product in the subsequent phases. Laser can count on different types of mixers produced internally through years of experience gained in contact with its customers all over the world.



# 3

## 3 FEEDING SOLUTIONS: DIRECT FEEDING, INTERMEDIATE SHORT REST, LONG FERMENTATION ON BOWLS

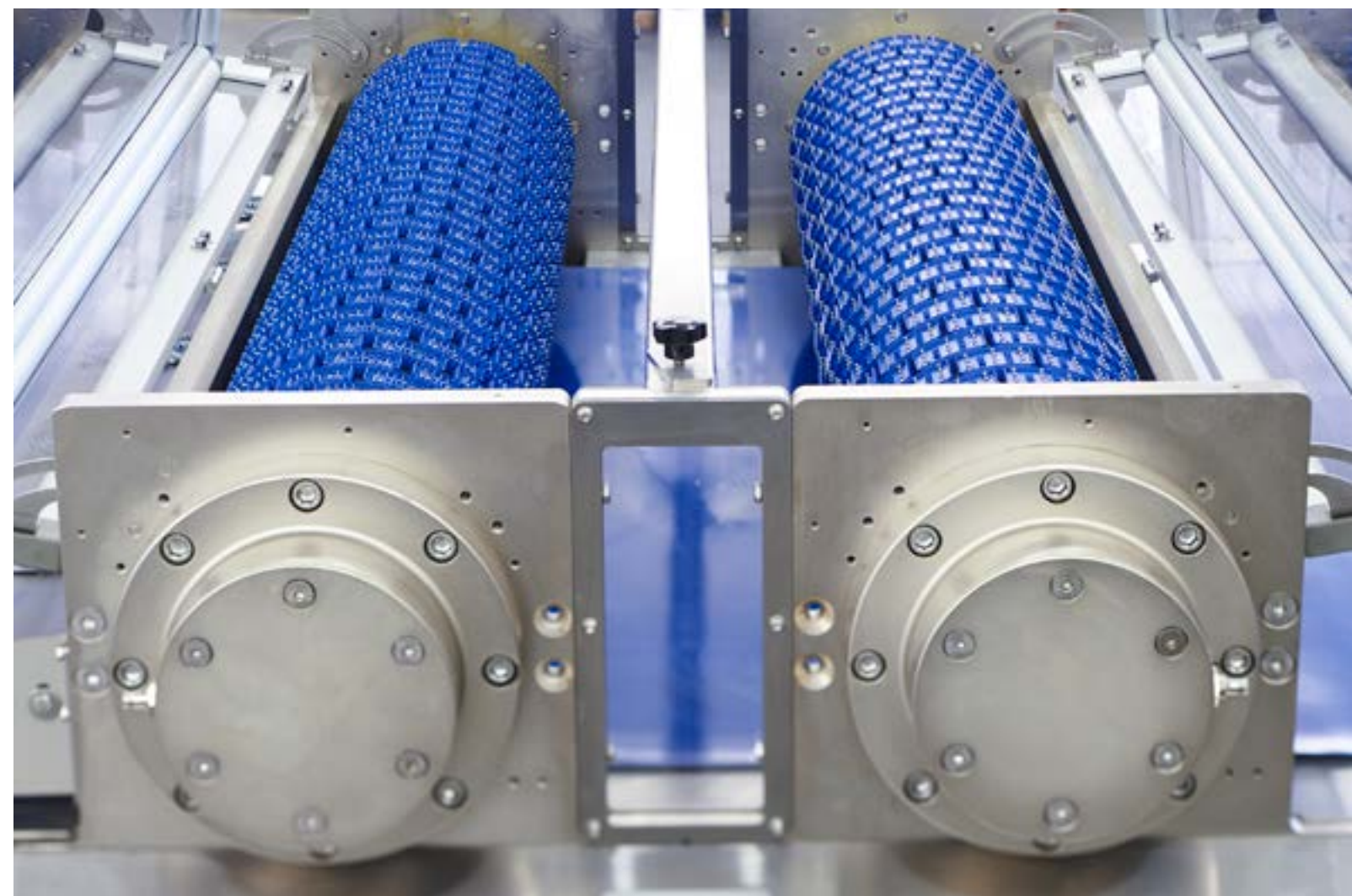
Once the dough is created it must be transferred to the **lamination line**. It could be a direct process, with resting period of a few minutes, or require a fermentation of several hours. The mixing room could be near the process area, or on a separate floor. In any case Laser has various technical solutions to automate this phase. Often the dough is also checked to avoid the presence of contaminating materials that could damage the following stations.





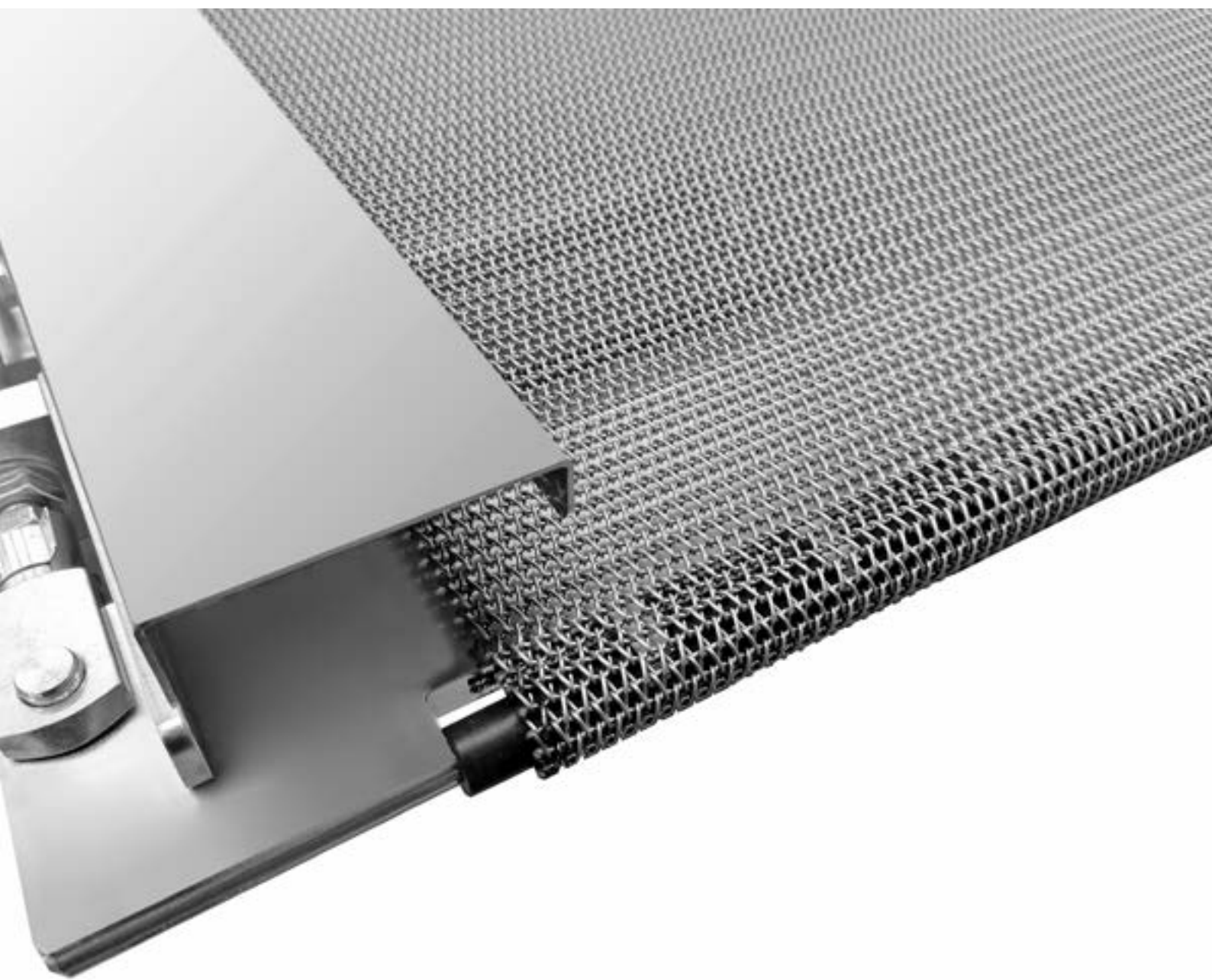


Once the desired thickness is reached, the sheet is engraved and cut by a **rotary cutting machine** and thousands of biscuits are formed every minute. The scraps are automatically recovered and taken back to the hopper of the initial extruder to be reused together with the fresh mixture. Once cut, the biscuits can be decorated with sugar, seeds or glazes before entering the baking phase. All this takes place automatically and without the need for direct intervention by operators.





50<sup>+</sup> MORE THAN 50 WAYS TO  
CUSTOMIZE THE PRODUCT



Each production line can be customized with various **accessories** to make the final product unique or make the same line more flexible and able to respond to market demands. It is possible to insert more dough sheeters, for two-colored or "Sultana" type products, as well as rotary moulding machines to also produce shortbread biscuits. Distribution systems for granulates, wetting and glazing can be easily integrated into the layout of the line to ensure that each product is unique in the market



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