

FORMULATIONS FOR READY-TO-EAT PORTUGUESE CUSTARD TART AFTER MICROWAVE OVEN RE-HEATING



TECHNOLOGY SUMMARY

Formulations of puff pastry and custard that allow preparation of ready to eat Portuguese custard tart (*Pastel de nata*) after microwave oven re-heating. This Portuguese custard tart, when completely cooked and deep-frozen, can be re-heated in a microwave oven and keep the same characteristics of the tart cooked on a conventional oven.

BENEFITS

REHEATING IN MICROWAVE OVEN WITHOUT LOSS OF THE ORIGINAL CHARACTERISTICS

MORE INTERESTING PRODUCT FOR THE FINAL CONSUMER: the consumer can get a crispy custard tart without using a conventional oven.

LESS PREPARATION TIME AND ENERGY: microwave reheating is faster and less energy consuming than cooking completion in conventional oven.

POSSIBILITY TO BE ADAPTED TO OTHER TYPES OF SWEET OR SALTED PASTRY

CONTEXT

Portuguese custard tart is composed of puff pastry on the outside, stuffed with cream custard. Once cooked, it is characterized by a crunchy dough and a cream with a slightly burnt shiny film. Usually, these custard tarts are consumed fresh. Pre-cooked and deep-frozen tarts already exist in the market, which confection is finalized by the consumer in a conventional oven preheated to 250°C, during a minimum of 15 minutes. This is a time- and high energy-consuming process. The use of a domestic microwave oven for reheating Portuguese custard tart does not exist in the market yet, as it leads to a higher heating of the custard compared to the puff pastry, prompting water migration from the custard to the dough, with consequent loss of crunchy and cracking textures.

The present invention consists in puff pastry and custard formulations, which enable ready-to-consume Portuguese custard tart after microwave reheating, while maintaining the same characteristics of the freshly baked tarts emerging from a conventional oven.

APPLICATIONS

This technology can be used in the production of:

PORTUGUESE CUSTARD TART (cooked and deep-frozen)

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IP RIGHTS

European patent pending.

DEVELOPMENT STAGE

TRL 7-9: The technology is ready to be introduced in the market.

It is solely necessary to adapt the technology to specific technological and operational requisites of each industry, which can be done in less than one month. Additionally, one should consider the time do assess product's expiry time, with a minimum of three months, under frozen conditions.

KEYWORDS

PUFF PASTRY

MICROWAVE OVEN

CRISPY DOUGH

PORTUGUESE CUSTARD TART

REHEATING OF DEEP-FROZEN PRODUCTS

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DEVELOPED BY

Researchers from the Organic Chemistry, Natural Products and Food Stuff Research Unit from the University of Aveiro and the company Mealfood, Lda.

BUSINESS OPPORTUNITY

Licensing agreement.

Testing of other applications/adaptation to other types of sweet or salted pastry.

PARTNERSHIP

The University of Aveiro seeks partners within the food industry.