



TETRA PAK AND DANISH TECHNOLOGICAL INSTITUTE UTILIZE AMT POSTPRO FOR FOOD-CONTACT APPROVED ICE CREAM PRODUCTION APPLICATION

“TETRA PAK PROCESSING SYSTEMS WORKS WITH PRODUCTION EQUIPMENT FOR THE FOOD INDUSTRY AND IMPLEMENTED ADDITIVE MANUFACTURING AS A KEY INGREDIENT.”

THE PROBLEM

The team from Tetra Pak set out to develop an ice cream extruder with the ability to mix several colors of ice cream and place them on a production line in a variety of shapes and patterns. Their previous extruder presented a host of issues leading Tetra Pak to seek the expertise of the Danish Technological Institute (DTI) and AMT PostPro.

This process started with members of the Tetra Pak team attending a 3-day course on 3D printing where they determined the main goals for the reinvention of the extruder alongside DTI. Previously, the extruder was created by welding together many small stainless-steel parts, which were then welded into three large sections that could be separated for cleaning. This was an expensive and non-optimal solution for a food contact application where the highest levels of safety and sanitation are required.

THE SOLUTION

The food contact application is now 3D-printed using metal-detectable nylon which is then finished with AMT's chemical vapour smoothing technology at the Danish Technological

Institute. The extruder consists of three parts – a manifold, which remains the same in the creation of all ice cream designs, and the extruder itself. The newly developed extruder holds internal channels that can easily be altered when Tetra Pak makes a new ice cream design.

The advantages of utilizing 3D printing in food applications are that it is both faster and significantly cheaper than previous manufacturing methods. With AMT PostPro vapour smoothing, Tetra Pak achieved 60% cost reductions, a delivery time cut in half, part consolidation from 30 parts to 3, and significantly increased hygiene.

BENEFITS OF AMT POSTPRO

AMT PostPro chemical vapour smoothing achieved a smoothed and sealed surface finish eliminating liquid absorption which could potentially lead to bacteria growth. Thanks to DTI and AMT PostPro, Tetra Pak leveled up their part production overall with additive manufacturing and is trailblazing the food contact application industry.



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