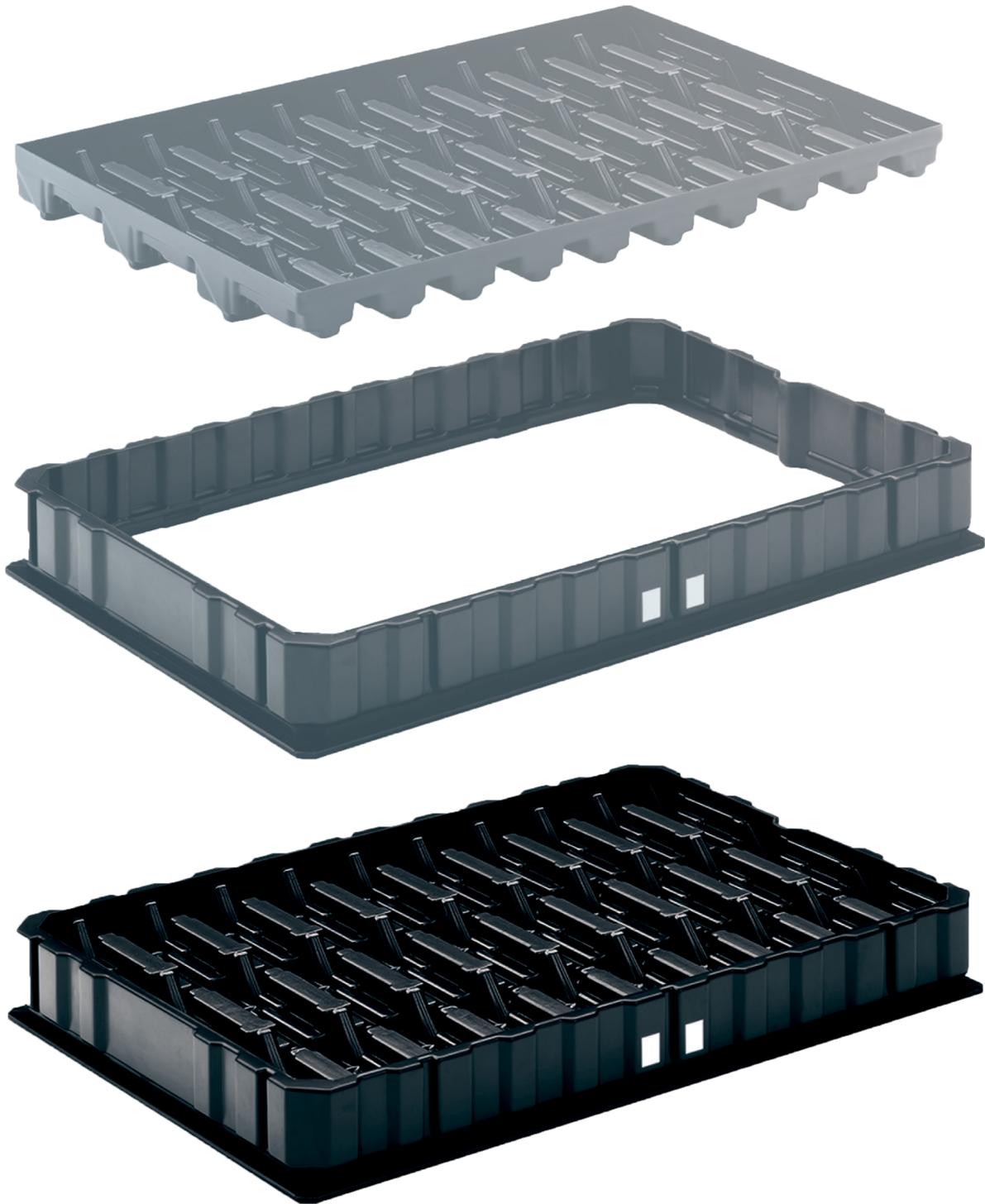


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FRAME TRAY CASE STUDY



EFFICIENT & COST-EFFECTIVE TRANSPORT OF *SENSITIVE PARTS*

FROM THE CUSTOMER:

“Osram, likes the ability that if we give Utz a part and give them basic information on what we are looking for they will come up with best design and pack for that part. This saves us time and money.”

-Charles Simon, Senior Mechanical Engineer Osram-Continental



FLEXIBLE



Maintain a common footprint while customizing the interior of the tray to fit the specific part.



MATERIAL



Frame tray technology can be used in both thermoformed and injection molded applications.



PROTECTION



Specific cavities are created to properly house and protect the part from damage throughout the processes and supply chain.

SENSITIVE PART TRANSPORTATION

with Utz Frame Tray Technology



Transporting sensitive parts efficiently and cost-effectively

Transporting sensitive parts efficiently and cost-effectively is a challenge every electronics packaging engineer must overcome. Packing electronics for shipment can be tough because defects typically surface after installation. The constant iterations in product design require specific protective packaging to effectively capture the part and ensure it stays in place during all the twists, turns, and potential drops of shipment. It is no secret that the manufacturing world has seen an increase in robotic

and automated lines, and these trends will only continue to increase. Manufacturing lines are being shortened and are required to move quickly without shutdowns or product fallout. The trend toward automation has an ever-increasing impact on quality and manufacturing key-performance-indicators, meaning production must remain stable and run faster than it ever has before, all while maintaining the highest quality standards. Achieving these goals requires that the parts produced be protected cost-effectively.

Osram-Continental, a global leader in high-tech photonics, has faced these challenges over the last decade. They approached us with a need to transport LED boards for headlights, safely and efficiently, from their manufacturing facility into other tier suppliers. These sensitive goods are prone to breakage and - as with all manufacturing - require the most budget-wise solution to their challenge. Armed with all the necessary information about the part to be transported and our arsenal of experience domestically and internationally, the Utz design team began working on a creative solution to their problem.

Since Utz offers both thermoforming and injection molding under one roof, the team was able to create a solution that uses thermoformed trays with tight tolerances housed inside a PSEL container to secure the parts for transport. The density of parts transported in each container was maximized, by ensuring the top tray within the container could also capture and protect the parts. To improve efficiency and flexibility for future part shapes and sizes, the team utilized Utz Frame Tray Technology, which keeps a standard footprint among all the trays while allowing the middle of the tray,



SENSITIVE PART TRANSPORTATION

with Utz Frame Tray Technology



also known as the insert, to be modified. “The packaging allowed us to use the same outer footprint on all our lines, this allows us to set up for the same dimensions but also allows us to change footprints for different LEDs without new setups or different packaging scenarios, said Charles Simon, Senior Mechanical Engineer with Osram-Continental.

Over the last decade of work with this Osram, many parts have been protected in these trays. Strategic changes to manufacturing have occurred, such as moving from a fully manual loading and unloading of parts into the tray to fully robotic loading and unloading. Each time a strategic change has been implemented, the trays are modified to improve line speed and production uptime. One such change was modifying the orientation of the boards when loaded into the tray.



“Since we went from corrugated to a flexible packaging design our damaged parts have decreased...”

When the manufacturing lines shortened the parts needed to be loaded lying flat in the tray instead of being inserted vertically, this meant the tray had to effectively capture and protect the thin boards while still interfacing efficiently with robotic handling. The team used 3D cad data of the part, printed SLAs of the trays, and drop tests to ensure the parts would fit properly and stay protected. Since these modifications were made to an existing frame tool the team could work quickly and provide a solution on a tight timeline.

By implementing the reusable packaging designed and supplied by Utz, the customer improved their efficiency and lowered product fallout rates. “Since we went from Corrugated to a flexible packaging design our damaged parts have decreased, we have also been able to handle the parts in one pack instead of multiple pack,” said Simon. Ultimately, this packaging continues to save them time and money as their operations flourish.

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Georg Utz is a globally operating specialist for the development, manufacture and distribution of plastic-made reusable packaging systems for transport, warehousing, and intralogistics, as well as for technical parts for professional applications. Utz's vision is to be the leading manufacturer of containers, pallets, component holders and technical parts made from recyclable plastic.

