

**HIRSCH** Czech Republic



PRODUCTION AND PRODUCTS MADE FROM MOULDED PULP

## ABOUT US

The company **HIRSCH Czech Republic s.r.o.** was established in January 2023 through the merger of Novopol s.r.o. and Morapal s.r.o.

Novopol s.r.o., based in Velký Třebešov near Česká Skalice, had a long history as a manufacturer of expanded polystyrene and moulded pulp packaging, dating back to 1992.

Similarly, Morapal s.r.o., founded in the same year under the name Morávek a Král s.r.o., was involved in the production of wooden products as well as products made from expanded polystyrene.

In December 2023, the company Renostav s.r.o., which specializes in the production and processing of technical and consumer plastics using injection molding, was acquired by HIRSCH Czech Republic.

The above-mentioned manufacturing processes are fully preserved, expanded, and modernized according to the latest trends.

**The company's headquarters:**

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## ABOUT US

In the Czech Republic, there are four manufacturing plants where we process and produce expanded polystyrene (EPS) products, products made from moulded pulp (MP), wooden products, and our own recycled EPS material (known as rEPS), technical plastics.

### Production plant Velký Třebešov

- The production of EPS packaging
- UFH (underfloor heating)
- Wire Cutting EPS

### Production plant Česká Skalice

- The production of EPS (insulation)
- The production of MP (moulded pulp)
- The production of rEPS (recycled EPS)

### Production plant Uničov

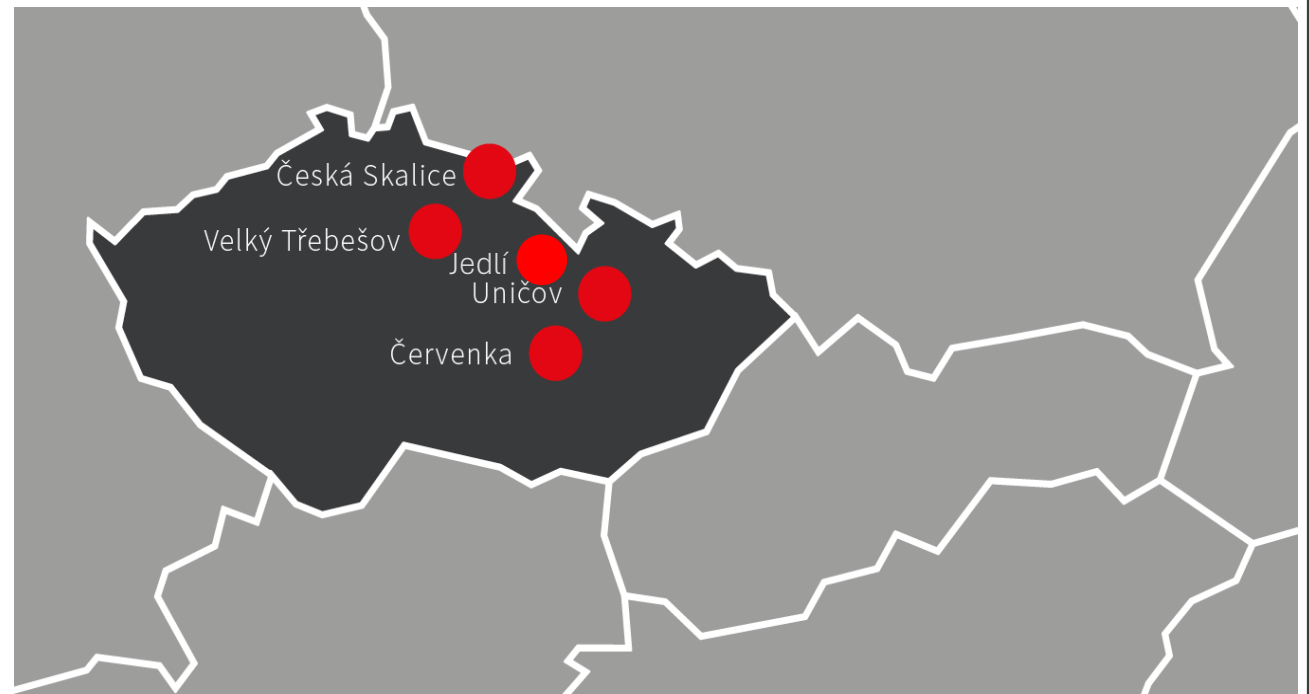
- The production of wooden spacers and inserts.
- The production of EPS packaging

### Production plant Červenka

- The production of wooden spacers and inserts.
- The production of Briquettes

### Production plant Jedlí

- The production of plastic parts
- Automotive



## PRODUCTION MOULDED PULP FROM RECYCLED MATERIALS

### WHY CHOOSE MOULDED PULP?

- Very low environmental impact
- Made from renewable sources
- 100% recyclable
- Biodegradable
- Production without toxic substances
- Shape stable
- Easily stackable (reducing transportation costs)
- Economically advantageous
- Electrostatically neutral



## PRODUCTION PROCESS OF MOULDED PULP

### Production process of moulded pulp consists of several steps:

1. Collection and sorting of recycled paper: Recycled paper, such as newspapers, magazines, and cardboard, is collected and sorted by type and quality. The raw material is usually supplied from recycling centers.
2. Pulping: The paper material is mixed with water and mechanically shredded into small particles, creating a dilute paper suspension at the prescribed density.
3. Removal of impurities: The paper suspension undergoes further processing through a vibrating screen, where the process of removing foreign contaminants, such as metals, plastics, tapes, and other small impurities, takes place.



## PRODUCTION PROCESS OF MOULDED PULP

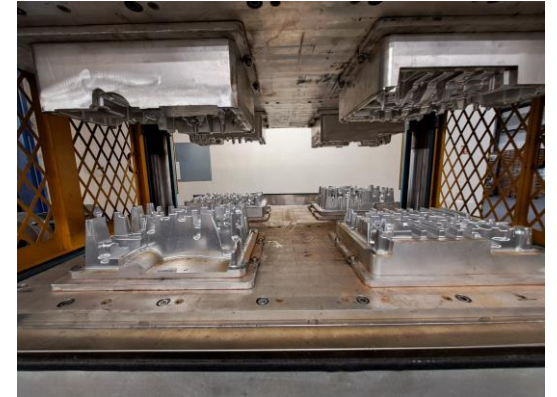
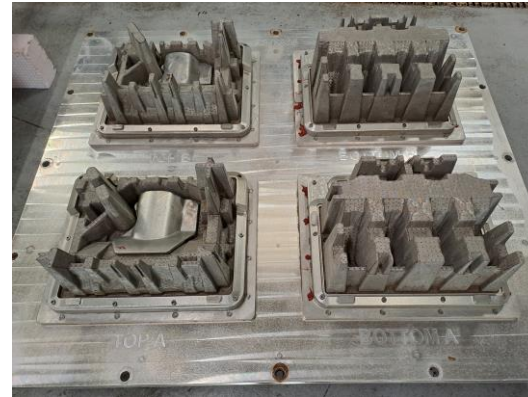
4. Production of specific products: Paper pulp is further processed and moulded into products using meshed moulds, resulting in the specific shape of the final product.
5. Drying: The pressed product then pass through a drying tunel. At the end of this process, it becomes either the final product or semi-final. Semi-final products going thru further visual and dimensional stabilization on hot press.
6. Hot pressing: This operation is a standard process in the production of moulded pulp packaging. Precisely dimensioned shaping moulds are heated within the range of 80 – 150 °C, and by applying specific pressure, a visually appealing and dimensionally stable formed product is created.

\*It's important to note that the specific process for producing moulded pulp packaging may vary depending on the manufacturing equipment and the technology used.

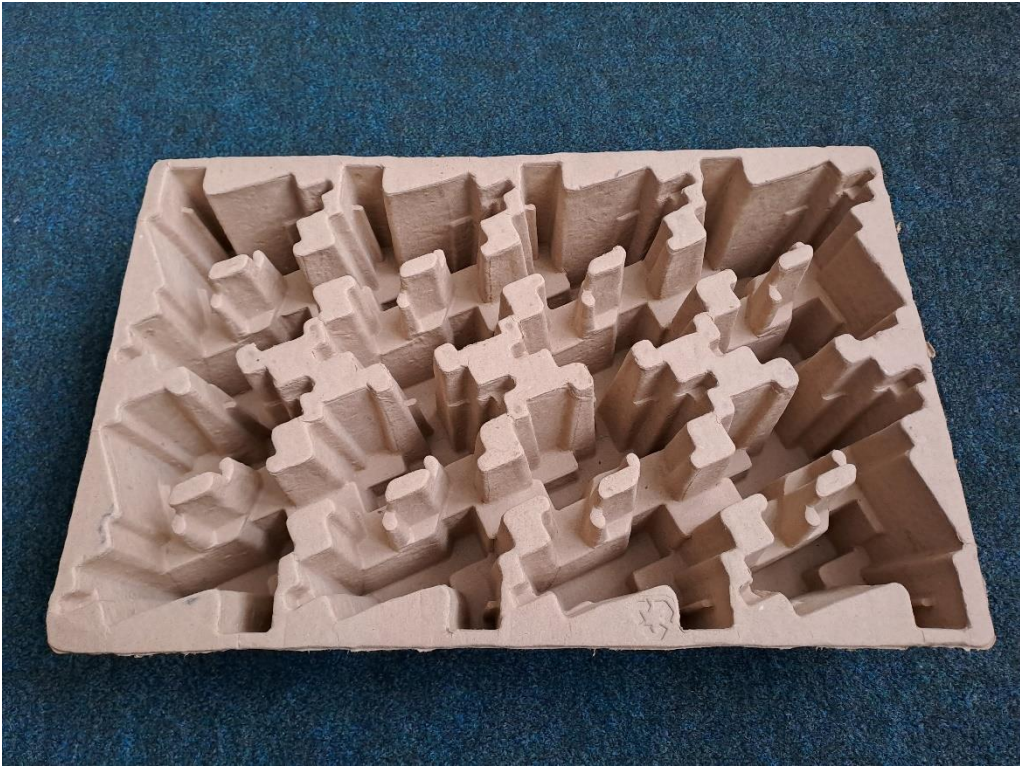


## TECHNOLOGY FOR MOULDED PULP

- For the production of moulded pulp, we utilize two lines. Older, time-tested production line and the most advanced HIRSCH Maschinenbau production line.
- To ensure dimensional stability and achieve visually perfect products, we use transfers with heated moulds.
- Our years of experience give us an advantage when it comes to technologically complex products, as well as in the utilization of modern technologies such as 3D printing.



# TECHNOLOGY FOR MOULDED PULP





## APPLICATIONS OF MOULDED PULP

Moulded pulp has a wide range of applications in various industries.

Here are a few examples:

1. **Packaging Solution:** Moulded pulp is ideal for producing packaging for items such as food, cosmetics, electronics, toys, and much more. It provides protection during transportation and storage while also presenting the product in an attractive manner.
2. **Pallets:** Moulded pulp is used for the production of transport pallets in standardized dimensions of 1200x800 mm, 800x600 mm, and 600x400 mm. These pallets are used for packaging and transporting various products and are often utilized in logistics and distribution. The pallets are treated with a hydrophobic coating to ensure moisture resistance. The maximum static load capacity of these pallets is 300 kg.



## APPLICATIONS OF MOULDED PULP

3. Inserts and Liners: Moulded pulp is also used as inserts, liners, and fillings in packages and boxes. These fillings provide protection for products against shocks and impacts during transportation, minimizing the risk of damage.

The points mentioned above are just a few of the many possible applications of moulded pulp. It is a highly flexible material that can adapt to various needs and applications in the world of packaging materials.



## 3D PRINTING OF MOULDS FOR MOULDED PULP

3D printing is an innovative technology that we use for producing tools for moulded pulp.

1. The first step is designing the packaging solution. If the customer doesn't have a packaging design, we collaborate with our design center to create and approve the packaging design together.
2. Based on the approved packaging design, we create a 3D model of the tool and print a test tool/mould, which we use to produce and test a prototype of the packaging solution at the customer's location or in a certified testing facility.
3. After the customer approves the packaging solution, the remaining cavities are either 3D printed to achieve the maximum format capacity of the machine, or an aluminum tool is ordered.
4. For the final production step, which stabilizes dimensions and provides a visually appealing finish, an aluminum tool might be needed for the hydraulic hot pressing.

The use of 3D printing for producing tools for moulded pulp offers flexibility and speed in creating both test and production moulds for large quantities. This technology allows for the creation of complex geometries and details, leading to innovative and precise results.



## PACKAGING MADE FROM MOULDED PULP IN COMPETITIONS



In cooperation with the company RB TRADING EUROPE s.r.o., we managed to find a safe and effective solution for the transport of 0.5l and 0.25l advertising cans and their safe transport to customers. The packaging was designed from moulded pulp in combination with a cardboard box and won prestigious competitions such as Packaging of the Year 2023 and Worldstar packaging 2024.





**THANK YOU FOR YOUR ATTENTION**

**HIRSCH Czech Republic s.r.o.**

**production plant Česká Skalice**

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