AXXOR
the best in honeycomb

Whitepaper

Everything You Need to Know When in Search of Paper Honeycomb Manufacturing Equipment

So, you're considering investing in in-house honeycomb core production. Often, this decision is driven by the desire to open new business opportunities, extend production capabilities, reduce costs, or gain more control over product quality and availability. With over 30 years of experience developing paper honeycomb core technology, we at Axxor understand the dos and don'ts of honeycomb production.

This whitepaper will guide you through the key factors to consider, including whether investing in your own production line, or sourcing from a specialist like Axxor, or a combination of both is the best path forward.

Selecting the Right Type of Equipment

When choosing honeycomb production equipment, it's essential to consider your organization's needs: the core quality standards, production volumes, required tolerances, and automation level. There are two primary types of paper honeycomb core machines:

1. Block Making Machines - Produce smooth cores, but require gluing together of blocks for subsequent processes.
2. Continuous Core Machines - Ideal for large-scale production, varying from 2 to 14 paper reels, affecting output capacity.

Within continuous machines, core widths typically range between 1600-2800mm. We often see 2800mm wide paper reels in our industry, as this is the maximum width that can be transported upright. Going beyond this width reduces transport efficiency because the paper reels need to be placed horizontally.

There are also integrated options combining core production with panel lamination in one step, which can reduce process complexity and eliminate the need for work-in-progress (WIP) inventory. However, a downside is that if any part of the integrated line breaks down or quality issues arise in the core line, the entire process comes to a halt — increasing the risk of cumulative downtime. Non-integrated setups are often preferred for efficiency and risk management.

Make vs. Buy:
Is Equipment the Right Move?

An alternative to buying your own production equipment is sourcing honeycomb core material from a specialized supplier. This decision should consider more than just equipment cost—it's about strategic fit, total cost of ownership, supply chain reliability, and access to advanced technology. Factors such as responsiveness to demand, innovation, and overall agility can also tip the scales.

Outsourcing honeycomb core production to a specialist like Axxor allows you to focus on your core business competencies while enjoying a reliable supply chain. It removes the complexity of machinery management, reduces the risk of downtime, and provides access to the latest innovations without heavy capital expenditure. This flexibility can be especially beneficial in industries where market demand can shift rapidly.

Make vs Buy Checklist:
Key Questions to Ask

Strategic Alignment

Does manufacturing align with your strategic business focus, or is honeycomb core better sourced from a specialist?

Operational Flexibility

Would sourcing from a supplier allow for greater flexibility in responding to changes in market demand?

Investment & Capital

Are you prepared to make the initial investment and ongoing maintenance costs?

Innovation Access

Can a supplier offer technologies and efficiencies that are beyond your current capabilities?

Key Considerations for Make vs Buy

Determining whether to produce internally (make) or outsource production (buy) is a crucial decision that impacts cost, quality, and competitiveness. A structured framework, as presented by Cánez, Platts, and Probert (2000), helps guide decision-makers to align decisions with both short-term and long-term goals.

To begin, consider what is triggering your make-or-buy dilemma. External factors could include changes in supplier availability, competition, or political shifts. Internal factors might involve cost reduction, managing supply chain risks, capacity challenges, faster market response, improving product quality, focusing on core competencies, innovation, or addressing skills shortages. Depending on these factors, your decision may vary.

Based on: A structured framework, presented by Cánez, Platts, and Probert (2000)

This section explores four key areas to consider: Technology and Manufacturing Processes, Cost, Supply Chain Management and Logistics, and Support Systems. Understanding these factors will help you determine which option aligns best with your strategic goals.

1. TECHNOLOGY AND MANUFACTURING PROCESSES

- When considering whether to produce in-house or outsource, it's crucial to evaluate the required technology and skills. Producing honeycomb core requires specialized machinery and technical expertise to maintain stable output and quality. If you decide to make the product yourself, you will need to ensure your company has or can develop the necessary knowledge and skills.

- The decision to produce in-house must align with your long-term strategic goals. Some companies prefer to keep core competencies in-house while outsourcing non-core activities. Access to new technologies is another critical factor—working with an external supplier may provide better access to innovative solutions and advanced technologies without heavy investment in R&D.

- Additionally, you must consider whether owning the production process helps you respond more quickly to market demands and changes in production volume. Maintaining flexibility is key in rapidly changing industries.

2. COST

- Cost considerations are at the forefront of any make-or-buy decision. Producing in-house involves both direct and indirect costs, including machinery, maintenance, labor, materials, material development, and logistics. There are significant capital expenditures associated with setting up a new production line, such as site preparation, equipment installation, and training.

- Maintenance costs are also crucial when it comes to honeycomb production. Well-maintained machines are essential for consistent production quality, and unexpected downtime can lead to significant operational disruptions. Partnering with the equipment supplier for commissioning, training & maintenance support and technical training is often required to keep machines running smoothly.

- In comparison, outsourcing can provide a more predictable cost structure with fewer upfront investments. You must weigh these considerations against the long-term benefits of having full control over production.

3. SUPPLY CHAIN MANAGEMENT & LOGISTICS

- When considering in-house production, supply chain risks must be taken into account. Dependence on external suppliers for raw materials, such as paper, requires careful evaluation of supplier reliability and the potential for supply disruptions. In addition, is there a contingency plan for when your equipment breaks down unexpectedly?

- On the other hand, outsourcing the production of honeycomb core materials can simplify supply chain management. By partnering with a specialized supplier, you can benefit from their established supply chain relationships and logistics networks, reducing your exposure to supply chain risks.

- Paper honeycomb is highly transportable, particularly when unexpanded. Maintaining safety stock at the supplier can help ensure stable deliveries to your customers and mitigate the risks of supply chain disruptions.

4. SUPPORT SYSTEMS

- Setting up an in-house production line involves establishing a wide range of support systems to ensure smooth operations. Training operators, setting up service agreements with equipment suppliers, and creating quality procedures are all necessary steps to maintain efficiency and product consistency.

- Additionally, configuring systems like MRP (Material Requirements Planning) to include new parts and processes will require time and expertise. You must also create a service network to handle technical issues within agreed timelines to avoid production halts.

- Outsourcing eliminates much of this complexity, as the supplier manages the support systems. This means reduced internal demands for operator training, quality management, and technical support, allowing your team to focus on core business activities.

Conclusion

The make-or-buy decision is critical for your long-term efficiency and competitiveness. By using a structured framework to evaluate strategic goals, costs, and risks, you can make informed decisions that optimize both cost and risk management.

How Can Axxor Help?

Axxor has specialized in manufacturing paper honeycomb core for over 30 years, focusing solely on providing the best core materials. By sourcing honeycomb from Axxor, you can:

- Scale production faster without investing in core equipment.
- Lower hiring, training, and operational costs.
- Benefit from compact shipments, reducing transport costs by up to 90%.
- Ensure quality with our industry-leading monitoring systems.

At Axxor, we don't just provide materials; we partner with you to optimize your supply chain and production processes. If you're considering investing in honeycomb core production or want to learn how sourcing could enhance your business agility and efficiency, reach out to our team today. Let's determine the smartest move together.

Let's succeed together in Honeycomb Manufacturing

Have a question or need more info? We're here to help!

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